COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: PJ-1

October 28, 2004

The Honorable Board of Supervisors
County of Los Angeles
383 Kenneth Hahn Hall of Administration
500 West Temple Street
Los Angeles, CA 90012

Dear Supervisors:

LOMA ALTA COUNTY PARK
GYMNASIUM AND GENERAL PARK IMPROVEMENT PROJECT
APPROVE MITIGATED NEGATIVE DECLARATION
ADOPT MITIGATION MONITORING AND REPORTING PROGRAM
ADOPT AND ADVERTISE
SPECS. 5396; C.P. 68961
SUPERVISORIAL DISTRICT 5
3 VOTES

JOINT RECOMMENDATION WITH THE CHIEF ADMINISTRATIVE OFFICER AND THE INTERIM DIRECTOR OF PARKS AND RECREATION THAT YOUR BOARD:

1. Approve the Mitigated Negative Declaration (Enclosure C) for the Loma Alta County Park Gymnasium and General Park Improvement Project together with the comments received during the public review process, find that the project will not have a significant effect on the environment, and that the Mitigated Negative Declaration reflects the independent judgment of the County.

2. Adopt the Mitigation Monitoring and Reporting Program (Section 8 of Enclosure C) to ensure compliance with the project conditions as contained in the Mitigated Negative Declaration and to mitigate or avoid environmental effects.

3. Find that the project will have no adverse effect on wildlife resources and authorize Public Works to complete and file a certificate of fee exemption for the project.

4. Adopt plans and specifications for construction of the Loma Alta County Park Gymnasium and General Park Improvement Project at an estimated construction cost of $3,332,680 funded by the Safe Neighborhood Park Propositions of 1992 and 1996, Park In-Lieu Fees Park Planning Area 40, Community Facilities District 7 Bond Funds, and State Proposition 12 Funds, and instruct the Executive Officer to advertise for bids to be received and opened on December 14, 2004, in accordance with the "Instruction Sheet for Publishing Legal Advertisements" (Enclosure B).

5. Authorize the Interim Director of Public Works to execute a consultant services agreement with the apparent lowest responsible bidder to prepare a baseline construction schedule for a not to exceed fee of $5,100 funded by existing project funds.

PURPOSE/JUSTIFICATION OF RECOMMENDED ACTION

The recommended actions will allow Public Works to solicit construction bids for the Loma Alta County Park Gymnasium and General Park Improvement Project.

The project consists of constructing an approximately 13,500-square-foot gymnasium and community center facility with a multi-purpose room; class room; lobby area; restrooms; kitchen; and storage, custodial and utility rooms. In addition, the project includes demolition of the existing recreation building; renovation and expansion of two parking lots and construction of one new parking lot; and construction of various site improvements, including new walkways, security lighting, and landscaping and irrigation improvements.

The proposed agreement requires the apparent lowest responsible bidder to prepare a baseline construction schedule that conforms to the County's schedule specification which is critical to successfully managing construction activities by both the contractor and the County. Bid specifications provide that if the apparent lowest bidder fails to complete an acceptable schedule, the Director may return to your Board to recommend that the bidder be determined nonresponsible and recommend awarding the construction contract to the next lowest bidder, contingent on that bidder completing a baseline schedule that conforms to the County's specifications.

Implementation of Strategic Plan Goals

These actions are consistent with the County's Strategic Plan Goals of Fiscal Responsibility and Children and Families Well-Being as the project is an investment in public infrastructure and will provide enhanced recreational opportunities that will assure good health, education and workforce readiness, and social and emotional well-being for children and families.

FISCAL IMPACT/FINANCING

Your Board previously approved a base construction budget of $3,332,680. The total project cost previously approved by your Board, including plans and specifications, plan check, construction, at-risk youth employment, equipment/utility connection fees, consultant services, miscellaneous expenditures, and County services, was estimated at $5,082,074.

The project is currently funded from the Safe Neighborhood Park Propositions of 1992 and 1996 ($3,020,244), Park In-Lieu Fees from Park Planning Area 40 ($408,821), Community Facilities District 7 Bond Funds ($353,009), and Safe Neighborhood Parks, Clean Water, Clean Air, and Coastal Protection Bond Act of 2000 (State Proposition 12) Funds ($1,300,000). An application for State Proposition 12 funds has been submitted to the State for approval.

In light of the rising construction costs currently being experienced throughout the construction industry, Public Works obtained an independent cost estimate which predicted a construction cost of $4,407,000. This would increase the overall project budget to $6,445,715.

Based on the potential for increased project costs beyond the available funding and the volatility of the current construction market, we are recommending that your Board proceed with obtaining bids for construction and defer any adjustments to the project budget until the bid process has been completed. At that time, we will return to your Board with final recommendations regarding the project scope, funding, and contract award.

Operating Budget Impact

Operating cost estimates are being developed by the Chief Administrative Office and Parks and Recreation. We will return to your Board with an estimate of the appropriate operating requirements and available funding at the time of award of the construction contract.

Based on the current project schedule, one-time start up costs would likely be incurred in Fiscal Year 2005-06 and ongoing operating costs would begin in Fiscal Year 2006-07.

FACTS AND PROVISIONS/LEGAL REQUIREMENTS

The project schedule has been extended to allow community input during the design phase, and to revise the plans based on the community input and jurisdictional review comments.

A standard construction contract, in the form previously approved by County Counsel, will be used. The standard Board-directed clauses that provide for contract termination, renegotiation, and hiring qualified displaced County employees will be included in the contract.

The project specifications contain provisions requiring the contractor to report solicitations of improper consideration by County employees and allowing the County to terminate the contract if it is found that the contractor offered or gave improper consideration to County employees.

As requested by your Board on August 12, 1997, and as a threshold requirement for consideration of contract award, bidders will be required to attest their willingness to consider Greater Avenues for Independence Program/General Relief Opportunity for Work participants for future employment.

As required by your Board, language has been incorporated into the project specifications stating that the contractor shall notify its employees, and shall require each subcontractor to notify its employees, about Board Policy 5.135, the Safely Surrendered Baby Law, and that they may be eligible for the Federal Earned Income Credit under the Federal income tax laws.

Bidders will also be required to show full compliance with Los Angeles County Code Chapter 2.200 (Child Support Compliance Program) and Chapter 2.203 (Contractor Employee Jury Services Program).

To ensure that the contract is awarded to a responsible contractor with a satisfactory history of performance, bidders are required to report violations of the False Claims Act, their civil litigation history, and information regarding prior criminal convictions. The information reported will be considered before making a recommendation to award.

Under the provisions of the County of Los Angeles Regional Park and Open Space District policy, your Board must adopt a Youth Employment Plan for each project that is funded, in whole or in part, by the Safe Neighborhood Parks Propositions of 1992 and 1996. At-risk youth were previously employed on the project to repair landscaping damaged by geological testing. Parks and Recreation is preparing the Youth Employment Plan to reflect the previously completed work and it will be brought to your Board for approval when we return for award of the construction contract.

ENVIRONMENTAL DOCUMENTATION

As required by the California Environmental Quality Act, a draft Mitigated Negative Declaration was prepared for this project and circulated for agency and public review on August 9, 2004, for a period of 30 days. During the public review period, five written responses were received from the following public agencies: The Governor's Office of Planning and Research (State Clearinghouse), Department of Toxic Substances Control, Southern California Association of Governments, County Sanitation Districts, and County Fire Department. In addition, two e-mail's were received from a private citizen. Comments received during the review period, responses to the comments, and the clarifications and revisions are contained in the final Mitigated Negative Declaration (Enclosure C). The proposed Mitigation Monitoring and Reporting Program (Section 8 of Enclosure C) was also prepared to ensure compliance with the environmental mitigation measures included as part of the final Mitigated Negative Declaration relative to biological resources, cultural resources, geology and soils, hazards and hazardous materials, noise, public services, and utilities and service systems. The recommended measures to mitigate the environmental impacts will be incorporated into the construction bid documents. Based on the final Mitigated Negative Declaration, comments, clarifications, and revisions received, it has been determined that the project will not have a significant effect on the environment.

A fee must be paid to the State Department of Fish and Game when certain notices required by CEQA are filed with the County Clerk. The County is exempt from paying this fee if your Board finds that a project will have no impact on wildlife resources. The Initial Study of Environmental Factors concludes that there will be no adverse effects on wildlife resources. Therefore, it is recommended that your Board find that the project will have no adverse effect on wildlife resources and authorize Public Works to complete and file a Certificate of Fee Exemption for the project.

CONTRACTING PROCESS

On November 10, 1998, the Board awarded an agreement to Carde Ten for the Jackie Robinson, Pamela, and Loma Alta Park Gymnasium and General Park Improvement Projects for a not to exceed fee of $334,453, including $116,429 for Jackie Robinson Park, $106,125 for Pamela Park, and $111,899 for Loma Alta Park. Since that time, four supplemental agreements have been executed, increasing the total contract value by $338,102, including $18,270 for Jackie Robinson and $319,832 for Loma Alta, for a current total contract amount of $672,555.

Advertising for bids will be in accordance with the County's standard "Instruction Sheet for Publishing Legal Advertisements" (Enclosure B). Following receipt of bids scheduled for December 14, 2004, we will return to your Board for construction contract award.

As requested by your Board on February 3, 1998, this contract opportunity will be listed on the "Doing Business with Us" website.

Participation by Community Business Enterprises in the project is encouraged through Public Works' Capital Projects' CBE Outreach Program and by monitoring the good faith efforts of bidders to utilize CBE.

IMPACT ON CURRENT SERVICES (OR PROJECTS)

The park will remain open during the 16-month construction duration scheduled to begin in March 2005. The recreational building is used for year-round recreational programs. Therefore, the new gymnasium and community center facility shall be completed and ready for occupancy prior to demolition of the recreational building.

Upon completion of the project, the addition of the gymnasium and community center facility will accommodate an increase in programs for youth, adults, and seniors. New programs will include computer classes in the classroom; a variety of indoor sports activities, including basketball, volleyball, and badminton; other fitness activities including aerobics exercise and fitness classes; and community events.

CONCLUSION

Please return one adopted copy of this letter to the Chief Administrative Office (Capital Projects Division), Parks and Recreation, and Public Works.

Respectfully submitted,

DONALD L. WOLFE
Interim Director of Public Works

DAVID E. JANSSEN
Chief Administrative Officer

RUSS GUINEY
Interim Director of Parks and Recreation

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Enc. 3

cc: County Counsel
Department of Public Social Services (GAIN/GROW Program)
Office of Affirmative Action Compliance

October 28, 2004

ENCLOSURE A

LOMA ALTA COUNTY PARK
GYMNASIUM AND GENERAL PARK IMPROVEMENT PROJECT
APPROVE MITIGATED NEGATIVE DECLARATION
ADOPT MITIGATION MONITORING AND REPORTING PROGRAM
ADOPT AND ADVERTISE
SPECS. 5396; C.P. 68961

I. PROJECT SCHEDULE

Project Activity	Scheduled Completion Date	Revised Completion Date
Award Design Contract	11/10/98	11/10/98*
Execute Design Contract	11/25/98	11/17/98*
Schematic Design	04/09/03	07/29/03*
Design Development	06/29/03	11/24/03*
Construction Documents	11/12/03	03/02/04*
Jurisdictional Approvals	01/21/04	10/07/04*
Construction Award	05/04/04	02/15/05
Construction Start	05/26/04	03/14/05
Substantial Completion	05/25/05	07/11/06
Final Acceptance	08/23/05	09/24/06

* Actual completion date

II. PROJECT BUDGET SUMMARY

Budget Category	Board Approved Project Budget	Delegated Authority Revised Budget	Independent Cost Estimate
Plans and Specifications			
Basic Design Services	$ 230,006	$ 240,321	$ 240,321
Construction Administration	84,141	84,141	84,141
Additional Consultant Services	71,776	71,776	71,776
A/E Additional/Reimbursable Services	25,808	35,493	35,493
Total A/E Contract	$ 411,731	$ 431,731	$ 431,731
Plan Check	$ 46,120	$ 46,120	$ 46,120
Construction			
Construction Contract	$ 3,332,680	$ 3,332,680	$ 4,407,000
Change Order Contingency	299,941	299,941	440,700
Youth Employment*	18,425	18,425	18,425
Total Construction	$ 3,651,046	$ 3,651,046	$ 4,866,125
Equipment/Utility Connection Fee	$ 35,000	$ 35,000	$ 35,000
Consultant Services	$ 155,416	$ 135,416	$ 183,846
Miscellaneous Expenditures	$ 15,000	$ 15,000	$ 15,000
County Services	$ 692,761	$ 692,761	$ 792,893
SUBTOTAL	$ 5,007,074	$ 5,007,074	$ 6,370,715
Equestrian Area Improvements**	$ 75,000	$ 75,000	$ 75,000
TOTAL	$ 5,082,074	$ 5,082,074	$ 6,445,715

* Includes youth labor, materials, and supervision for work previously completed.
** Equestrian area improvements completed as a separate project.

October 28, 2004

ENCLOSURE B

LOMA ALTA COUNTY PARK
GYMNASIUM AND GENERAL PARK IMPROVEMENT PROJECT
APPROVE MITIGATED NEGATIVE DECLARATION
ADOPT MITIGATION MONITORING AND REPORTING PROGRAM
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PUBLISHING LEGAL ADVERTISEMENTS: In accordance with the State of California Public Contract Code Section 20125, you may publish once a week for two weeks in a weekly newspaper, or ten times in a daily newspaper. Forward three reprints of this advertisement to Architectural Engineering Division, Department of Public Works, 900 South Fremont Avenue, Eighth Floor, Alhambra, California 91803-1331.

OFFICIAL NOTICE INVITING BIDS

Notice is hereby given that the Director of Public Works will receive sealed bids for furnishing all materials, labor, and equipment required to complete construction for the following work:

SD	SPECS	PROJECT	BID DOC. FEE	DATE OF BID OPENING
5	5396	Loma Alta County Park Gymnasium and General Park Improvement 3330 North Lincoln Avenue Altadena, CA 91001	$50	12/14/04

Copies of the project manual and drawings may be obtained at the Cashier's Office, Department of Public Works, Mezzanine, 900 South Fremont Avenue, Alhambra, California 91803, for the fee stated above. For bid information, please contact Mr. David Asato of Architectural Engineering Division at (626) 458-2586. Each bid shall be submitted on the required form, sealed, and filed at the Cashier's Office before 10:45 a.m. on the date indicated. Bids will be publicly opened, examined, and declared by Public Works at 11:00 a.m. on this date in the Main Conference Room, Fifth Floor, 900 South Fremont Avenue, Alhambra, California 91803.

Bids must conform to the drawings and project manual and all bidding requirements. This project requires the prime contractor to possess a "B" license classification at the time of bid. The contractor should verify to his/her satisfaction that he/she holds the correct license for this type of project.

PRE-BID CONFERENCE

Public Works will hold a pre-bid conference at 10:00 a.m., on Tuesday, November 30, 2004, at the project site located at 3330 North Lincoln Avenue, Altadena, California 91001, to provide information on the project, bidding process, and address any questions that potential bidders may have. For further directions, please contact Mr. David Asato with the Department of Public Works at (626) 458-2586.

OTHER INSTRUCTIONS

The County supports and encourages equal opportunity contracting. The contractor shall make good faith efforts, as defined in Section 2000 of the Public Contract Code to contract with Community Business Enterprises.

The Board of Supervisors reserves the right to reject any or all bids or to waive technical errors and discrepancies in bids submitted in the public's interest.

Si necesita información en Español, por favor llame al Telefono (626) 458-2563.

Upon 72 hours notice, Public Works can provide program information and publications in alternate formats or make other accommodations for people with disabilities. In addition, program documents are available at our main office in Alhambra (900 South Fremont Avenue), which is accessible to individuals with disabilities. To request accommodations ONLY, or for more ADA information, please contact our departmental ADA Coordinator at (626) 458-4081 or TDD (626) 282-7829, Monday through Thursday, from 7:00 a.m. to 5:30 p.m.

Con 72 horas de noticia, el Departamento puede proveerle información y publicaciones sobre el programa y formatos alternativos o hacer adaptaciones para incapacitados. Además, documentación sobre el programa está disponsible en nuestra oficina principal en Alhambra (900 South Fremont Avenue), la cual es accesible para individuos con incapacidades. Para solicitar adaptaciones SOLAMENTE, o para mas información del ADA, pongase en contacto con nuestro Coordinador del ADA del departamento al (626) 458-4081 o TDD (626) 282-7829, de lunes a jueves de las 7:00 a.m. a 5:30 p.m.

By order of the Board of Supervisors of the County of Los Angeles, State of California, dated November 9, 2004.

Specs. 5396

VIOLET VARONA-LUKENS, EXECUTIVE OFFICER
OF THE BOARD OF SUPERVISORS
OF THE COUNTY OF LOS ANGELES

October 28, 2004

<u>ENCLOSURE C</u>

LOMA ALTA COUNTY PARK
GYMNASIUM AND GENERAL PARK IMPROVEMENT PROJECT
APPROVE MITIGATED NEGATIVE DECLARATION
ADOPT MITIGATION MONITORING AND REPORTING PROGRAM
ADOPT AND ADVERTISE
SPECS. 5396; C.P. 68961

MITIGATED NEGATIVE DECLARATION

ENCLOSURE D

Final

LOMA ALTA COUNTY PARK GYMNASIUM & GENERAL IMPROVEMENT PROJECT

Initial Study / Mitigated Negative Declaration

October 2004

Prepared for:
County of Los Angeles
Department of Public Works

4221 Wilshire Boulevard
Suite 480
Los Angeles, CA 90010
(323) 933-6111

436 14th Street
Suite 600
Oakland, CA 94612
(510) 839-5066

8950 Cal Center Drive
Bldg 3, Suite 300
Sacramento, CA 95826
(916) 564-4500

225 Bush Street
Suite 1700
San Francisco, CA 94104
(415) 896-5900

710 Second Avenue
Suite 730
Seattle, WA 98104
(206) 442-0900

4001 Office Court
Suite 607
Santa Fe, NM 87507
(505) 992-8860

2685 Ulmerton Road
Suite 102
Clearwater, FL 33762
(727) 572-5226

5850 T.G. Lee Boulevard
Suite 440
Orlando, FL 32822
(407) 851-1155

ESA Environmental Science Associates

P202695

LOMA ALTA COUNTY PARK GYMNASIUM AND GENERAL IMPROVEMENT PROJECT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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LOMA ALTA COUNTY PARK GYMNASIUM AND GENERAL IMPROVEMENT PROJECT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

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SECTION 1.0

PROJECT DESCRIPTION

INTRODUCTION

This document summarizes and addresses the results of an Initial Study to determine if any significant environmental effects could occur from the proposed improvements to Loma Alta County Park. The Initial Study was prepared pursuant to the requirements of Section 15063 of the California Environmental Quality Act (CEQA) Guidelines.

PROJECT OBJECTIVE

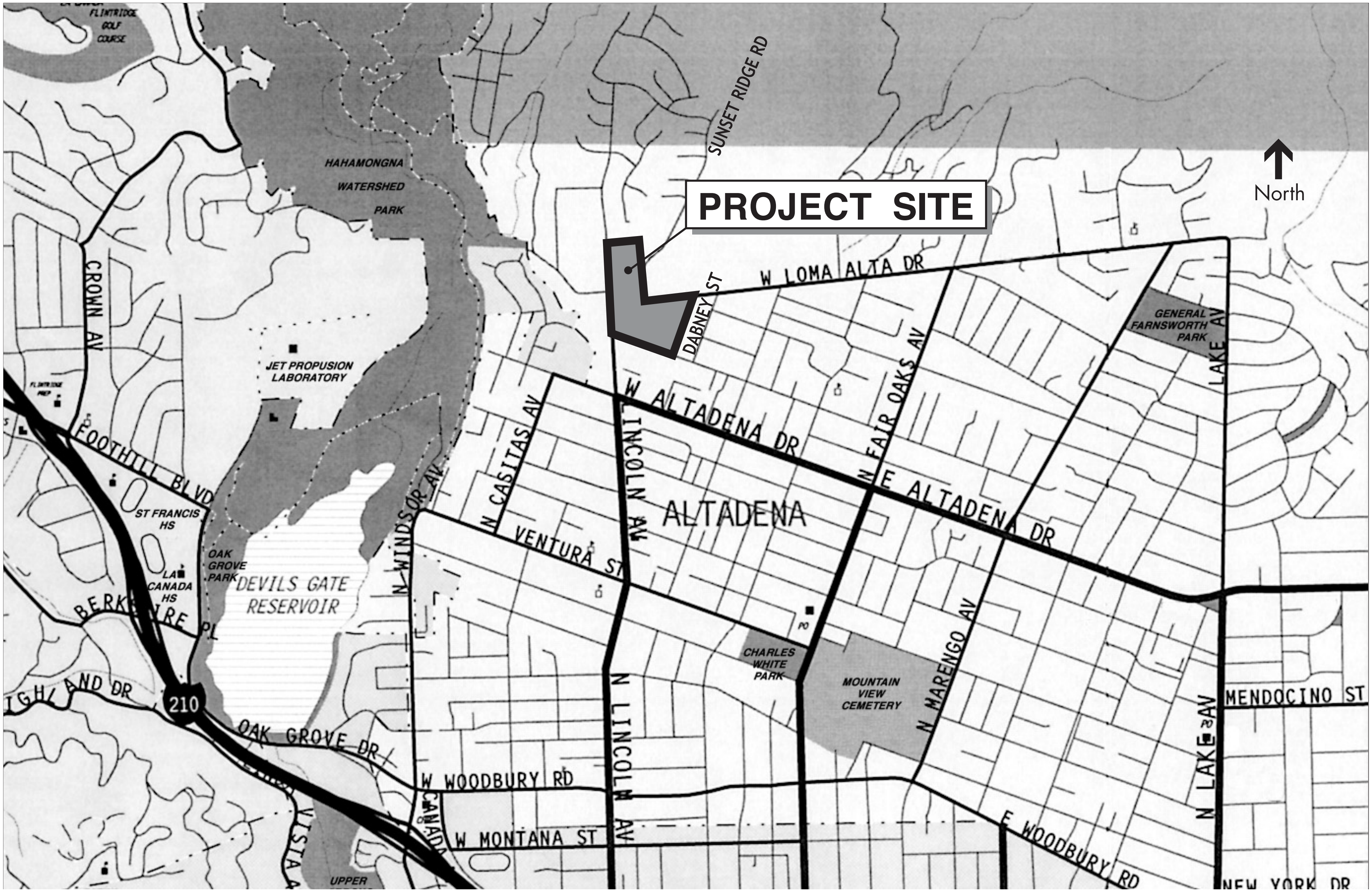
The primary objective of the project, as identified by the Los Angeles County Department of Parks and Recreation, is to improve park facilities and increase recreational opportunities at the existing Loma Alta County Park. Specific project elements include:

- Construct a gymnasium and community center facility to improve and increase indoor recreational use;
- Provide adequate surface parking for new gymnasium and community center facility; and,
- Complete necessary related site improvements such as security lighting, landscaping and irrigation, ADA walkways, and site utilities.

PROJECT LOCATION

Loma Alta County Park is located at 3330 North Lincoln Avenue in an unincorporated area of Los Angeles County (see Figure 1). The park is located in a residential area north of the City of Pasadena, east of the City of La Cañada, and northwest of the City of Sierra Madre. The existing 16.5-acre park is located at the foothills of the San Gabriel Mountains south of the Angeles National Forest. The park is bounded by Lincoln Avenue to the west, Palm Street to the south, and Dabney Street and Sunset Ridge to the east. The park is bisected by West Loma Alta Drive, and the northern portion of the park that contains the project site is bounded by Lincoln Ave to the west, Sunset Ridge Road to the east, a hiking trail to the north, and West Loma Alta Drive to the south.

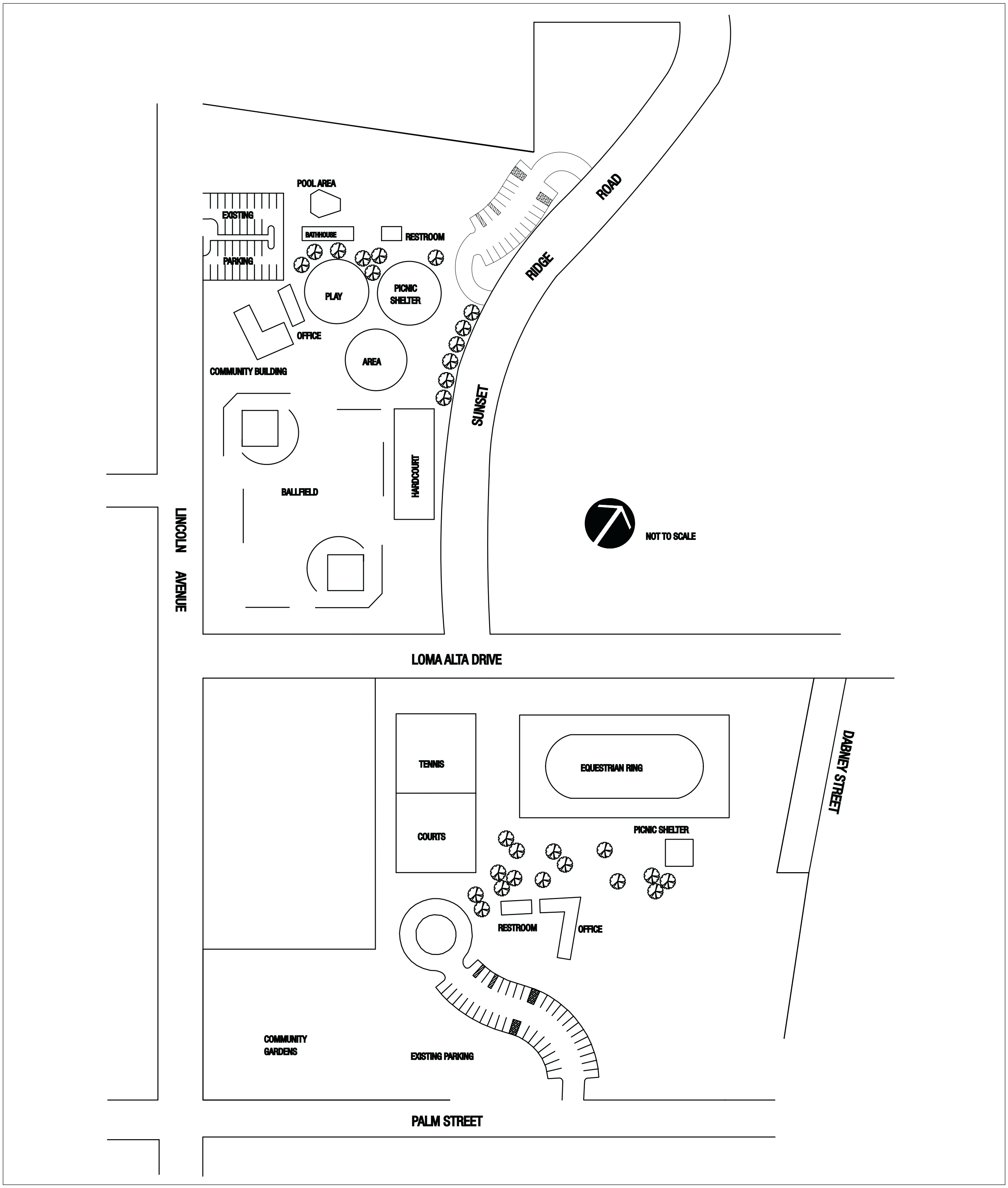
The northern portion of the park includes a recreational building, a pool building and outdoor pool, a play area, outdoor basketball courts, two ball fields, and two parking lots with a total of 38 parking spaces, one that can be accessed from Lincoln Avenue and one that can be accessed from Sunset Ridge Road. The southern portion of the park includes an equestrian arena, tennis courts, restroom facilities, picnic areas, and one parking lot with 40 parking spaces. However, the southern portion of the park is not included as part of the proposed project. Figure 2 details the existing site plan of the northern and southern portions of the park. Photographs of the existing park and the surrounding area are included as Figures 3 through 8.



SOURCE: Thomas Bros. Maps

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 1
Location Map



SOURCE: Los Angeles County Department of Parks & Recreation Planning

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 2
Loma Alta County Park Existing Site Plan

SOURCE: Environmental Science Associates

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 3
View of One of Two Existing Ball Fields Looking Southwest

SOURCE: Environmental Science Associates

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 4
View of Existing Recreation Building
Looking West from Play Area

SOURCE: Environmental Science Associates

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 5

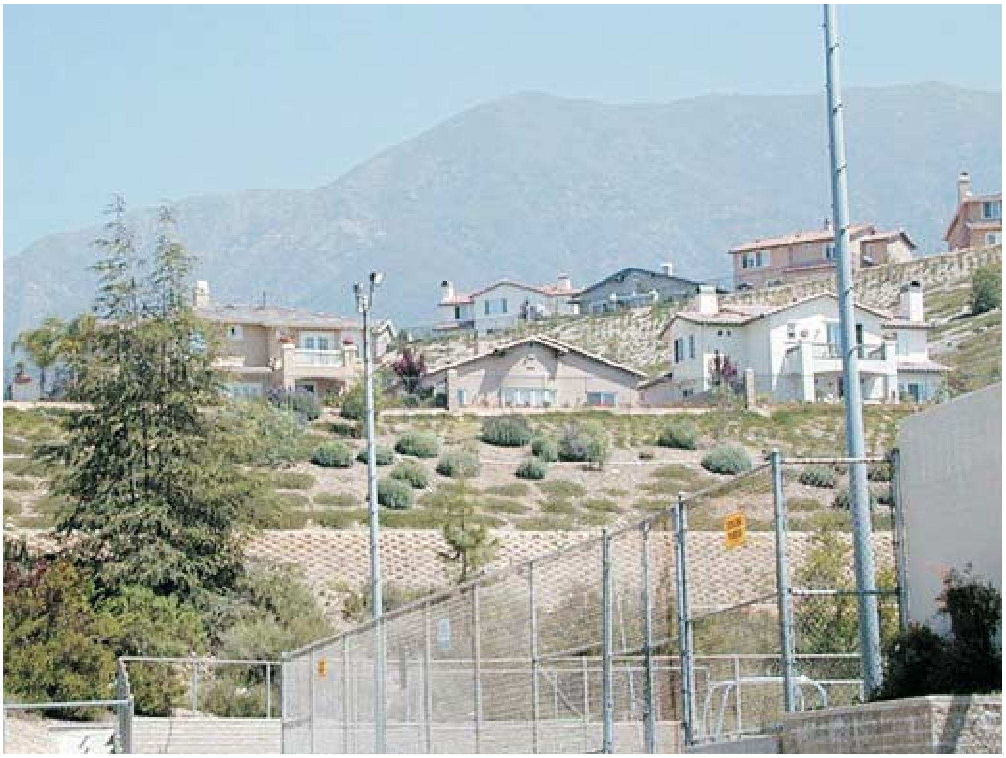
View of Play Area Looking Southeast

SOURCE: Environmental Science Associates

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 6

View of Existing Basketball Court Looking East



SOURCE: Environmental Science Associates

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 7
View of Surrounding Residential Development Located North of the Park

SOURCE: Environmental Science Associates

Loma Alta County Park Gymnasium Project MND / 202695 ■

Figure 8
View of Sunset Ridge Road Looking East from the Park

PROJECT BACKGROUND

On November 3, 1992 and November 5, 1996, the voters of Los Angeles County approved "Proposition A" which provides funding for the Los Angeles County Regional Park and Open Space District to develop and improve facilities to meet the diversified recreational needs of the citizens of Los Angeles County. As demonstrated in *A Parks and Recreation Strategic Plan for 2010*, Los Angeles County is severely deficient in parkland. Loma Alta County Park is located in Park Planning Area #40, Altadena .

According to the Strategic Plan, this Planning Area is deficient but not totally lacking in park facilities. In addition to Loma Alta County Park, the Planning Area contains six other local county parks that total 13 acres. The Eaton Canyon Park and Natural Area is also located within the park planning area.

Also according to the Strategic Plan, the area is anticipated to have a need for 190.3 acres of local parkland (see Table 1).

TABLE 1: LOCAL COUNTY PARK NEEDS AND DEFICIENCIES

Planning Area	Regional Planning Area	Population in 2010	Acres of Parkland Needed	Acres of Deficient Parkland	Deficiency as a % of total need
40 Altadena	West San Gabriel Valley Planning Area	47,577	190.3	150	78.8

Source: A Parks and Recreation Strategic Plan for 2010.

PROJECT DESCRIPTION

The proposed project consists of renovating and improving the northern portion of the existing 16.5-acre Loma Alta County Park. The proposed project would include the demolition of the existing recreation building (see Figure 4), and asphalt basketball courts and light standards (see Figure 6), and construction of a new gymnasium and community center facility, associated surface parking and site improvements, including security lighting, landscaping and irrigation, and walkways.

An approximately 13,500-square foot gymnasium and community center facility would be constructed at the location of the existing outdoor basketball courts and would consist of the following:

- An approximately 1,100-square foot lobby area with double door access and concrete flooring.
- 8,000-square foot court space for high school basketball, volleyball or badminton activities.
- Three-tier fixed seating bleacher for approximately 100 spectators.
- Restroom facilities.
- Approximately 800 square feet of storage room space.
- Janitor's closet/pipechase.
- Mechanical/electrical room.
- Office space.

- An approximately 700 square foot classroom.
- An approximately 1,300 square foot community room.
- An approximately 230 square foot warming kitchen.

The proposed project would also include:

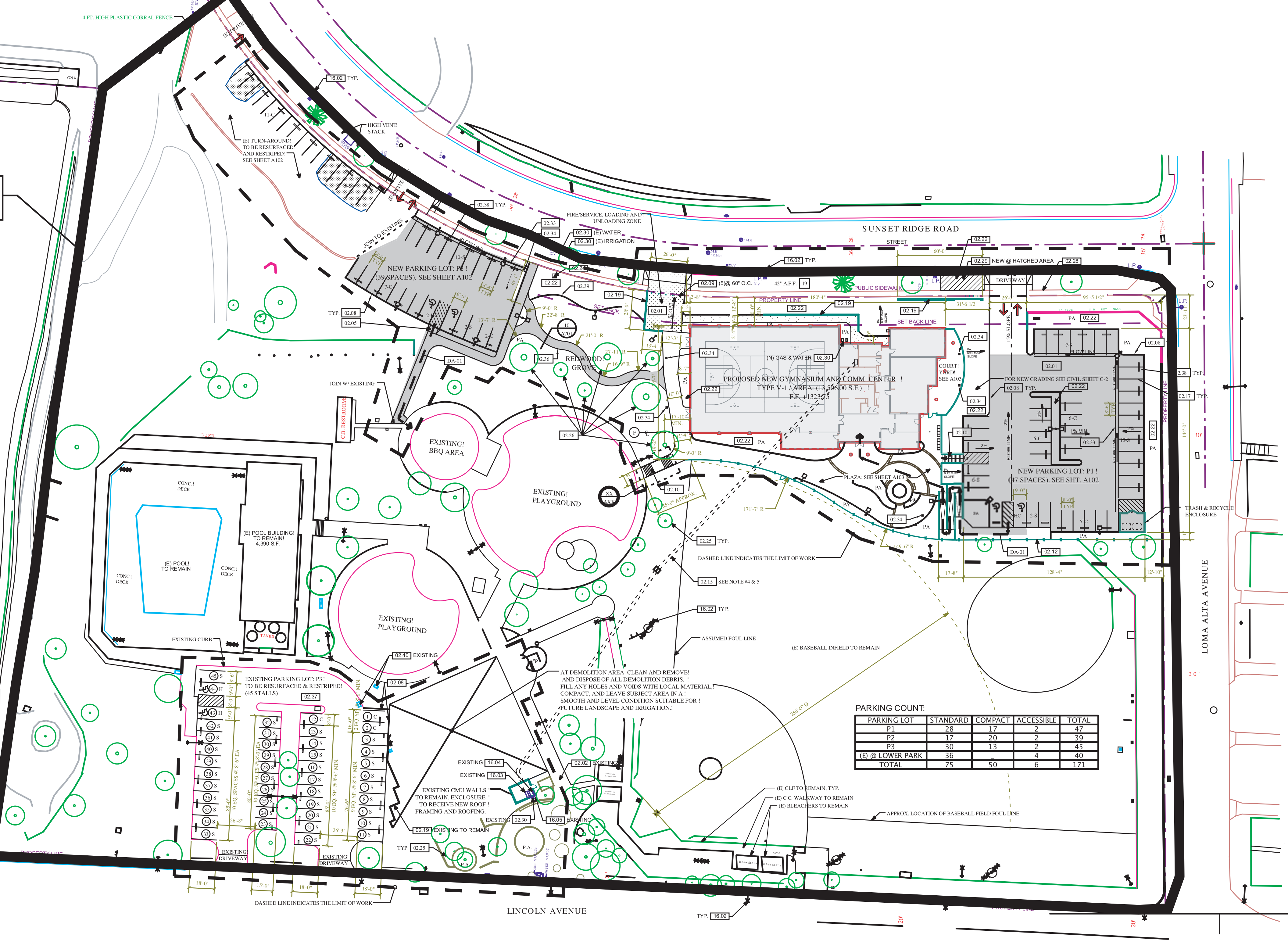
- ADA compliant concrete walkways and ramps from the parking lot areas along Sunset Ridge Road to the new gymnasium and community center facility and to the existing play areas.
- Renovation of the existing parking lot located off of Lincoln Avenue (45 spaces proposed).
- Renovation and expansion of the existing parking lot located off of Sunset Ridge Road (39 spaces proposed).
- Construction of a new parking lot near the intersection of Sunset Ridge Road and Loma Alta Drive (47 spaces proposed).
- Demolition of the existing recreation building.
- Onsite utilities.
- Security lighting.
- Irrigation and landscaping improvements.

Figure 9 shows the project site plan of the northern portion of the park with the proposed improvements.

The existing equestrian trail that extends along the eastern boundary of the northern portion of the park shall be removed as part of the project to accommodate the proposed park improvements. Prior to construction of the proposed park improvements, the equestrian trail will be relocated off-site as a separate project with its own environmental document.

PROJECT SCHEDULE

Construction of the proposed project is anticipated to be completed within a 12-15 month period. The proposed gymnasium and related park improvements are anticipated to be in full operation by the end of 2005.



PARKING COUNT:

PARKING LOT	STANDARD	COMPACT	ACCESSIBLE	TOTAL
P1	28	17	2	47
P2	17	20	2	39
P3	30	13	2	45
(E) @ LOWER PARK	36	_	4	40
TOTAL	75	50	6	171

SECTION 2.0

INITIAL STUDY CHECKLIST

The following Environmental Checklist and discussion of potential environmental effects were completed in accordance with Section 15063(d)(3) of the CEQA Guidelines to determine if the project may have any significant effects on the environment.

A brief explanation is provided for all determinations. A "No Impact" or "Less than Significant Impact" determination is made when the project would not have any impact or would not have a significant effect on the environment for that issue area based on a project-specific analysis.

CEQA ENVIRONMENTAL CHECKLIST AND INITIAL STUDY

1. Project Title:	Loma Alta County Park Gymnasium and General Improvement Project
2. Lead Agency Name and Address:	Los Angeles County Department of Public Works 900 South Fremont Ave, 5th Floor Alhambra, CA 91803
3. Contact Person and Phone Number:	Mike Patel, Project Manager (626) 300-2359
4. Project Location:	3330 North Lincoln Avenue
5. Project Sponsor's Name and Address:	County of Los Angeles Department of Parks and Recreation 433 South Vermont Avenue Los Angeles, CA 90020
6. General Plan Designation:	Public and Private Recreation
7. Zoning:	R-1

8. Description of Project:

The proposed project consists of the renovation and improvement of the existing northern portion of the 16.5-acre Loma Alta County Park. The proposed project would include the construction of an approximately 13,500 square foot gymnasium and community center facility, associated surface parking and site improvements, including security lighting, landscaping and irrigation, and walkways.

9. Surrounding Land Uses and Setting:

The site is located in a residential area. Surrounding land uses include single-family residential development.

10. Other agencies whose approval is required: None

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less than Significant with Mitigation Incorporation" as indicated by the checklist on the following pages:

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☒ Geology / Soils
☒ Hazards & Hazardous Materials	☐ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☒ Noise	☐ Population / Housing
☒ Public Services	☐ Recreation	☐ Transportation / Traffic
☒ Utilities / Service Systems	☐ Mandatory Findings of Significance	

DETERMINATION: (To be completed by lead agency)

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

______________________________	______________________________
Signature	Date
______________________________	______________________________
Printed Name	For

EVALUATION OF ENVIRONMENTAL IMPACTS

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐	☒
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐
II. AGRICULTURAL RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. **Would the project:**				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☒
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. **Would the project:**				
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?	☐	☐	☒	☐
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	☐	☐	☒	☐

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
III. AIR QUALITY -- (cont.):				
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐
IV. BIOLOGICAL RESOURCES -- Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☒	☐	☐
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☒	☐	☐
ii) Strong seismic ground shaking?	☐	☒	☐	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslides?	☐	☐	☒	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☒	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☒	☐	☐

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
VI. GEOLOGY AND SOILS -- (cont.):				
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
VII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
VIII. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems?	☐	☐	☒	☐
f) Otherwise substantially degrade water quality?	☐	☐	☒	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place housing within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation of seiche, tsunami, or mudflow?	☐	☐	☐	☒
IX. LAND USE AND PLANNING -- Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
IX. LAND USE AND PLANNING -- (cont.):				
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?	☐	☐	☐	☒
X. MINERAL RESOURCES -- Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒
XI. NOISE -- Would the project result in:				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☒	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
XII. POPULATION AND HOUSING -- Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
XIII. PUBLIC SERVICES --				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☒	☐	☐
Other public facilities?	☐	☐	☐	☒
XIV. RECREATION --				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
XV. TRANSPORTATION / TRAFFIC -- Would the project:				
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?	☐	☐	☒	☐
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒
d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e) Result in inadequate emergency access?	☐	☐	☐	☒
f) Result in inadequate parking capacity?	☐	☐	☐	☒
g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☒
XVI. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐

Issues (and Supporting Information Sources):	*Potentially Significant Impact*	*Less Than Significant With Mitigation Incorporation*	*Less Than Significant Impact*	*No Impact*
XVI. UTILITIES AND SERVICE SYSTEMS -- (cont.):				
e) Result in a determination by the wastewater treatment provider which serves or may serve the p1roject that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☒	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☒	☐	☐
XVII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulative considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☐	☒
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	☒

SECTION 3.0

DISCUSSION OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

I. AESTHETICS

Would the proposal:

a) Have a substantial adverse effect on a scenic vista?

No Impact. The project site is located in a developed area. The proposed project would not affect scenic vistas or highways. Based on the relative height (not to exceed 37'6") and location of the proposed gymnasium in relation to the developed hillside to the north, implementation of the proposed project would not obstruct views of the nearby mountains, which are located further to the north, from residences to the south of the project site. Further, construction of the proposed approximately 13,500-square-foot gymnasium and community center facility and the related improvements would improve conditions on-site and would represent a continuation of an existing use. This would be a beneficial impact of the proposed project; no negative impacts are anticipated. No mitigation measures are required.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less than Significant Impact. The project site is currently developed and is used as a park with primarily ornamental vegetation located throughout the site. Implementation of the proposed project would involve the removal of several trees and landscaping along the eastern portion of the project site to accommodate the new gymnasium and community center facility. The existing, mature redwoods (*Sequoia sempervirens*) located on-site would be protected in place. Further, the proposed project includes the replacement of removed plant material with similar landscape and ornamental vegetation. In addition, there are no scenic highways in the project vicinity. This would be considered a less than significant impact to scenic resources. No additional mitigation measures are required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The project site is located in a residential area. The proposed project represents the continuation of an existing use and consists of the replacement, modification, and improvement of the existing Loma Alta County Park, augmenting and upgrading existing recreational facilities with additional recreational facilities, including an approximately 13,500-square-foot gymnasium and community center facility, a new parking lot, an expanded existing parking lot, and other related site improvements. These site improvements would be consistent with the existing visual character of the park, would correspond to the removal of the existing recreation building located along the western portion of the project site, and further enhance the appearance and quality of the park. No demonstrable negative change is anticipated. No significant aesthetic impacts are anticipated as a result of project development. No mitigation measures are required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The development of the proposed project represents the continuation of an existing use and would not result in significant impacts to light and glare. Lighting would be provided for security purposes only. The proposed project would include glare shields/down lighting for security and parking lot lights. No significant impacts are anticipated, and no mitigation measures are required.

II. AGRICULTURAL RESOURCES

Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?
c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No Impact. The project site is an existing park, with no agricultural resources or operations. In addition, no Prime Farmland, Unique Farmland, or Farmland of Statewide Importance is located in the immediate vicinity of the project site. Therefore, no impacts to agricultural resources would occur. No mitigation measures are required.

III. AIR QUALITY

Would the project:

a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan?
b) Violate any air quality standard or contribute to an existing or projected air quality violation?
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. The site is located in the Los Angeles County sub-area of the South Coast Air Basin (SCAB). Los Angeles County is designated as a non-attainment area for ozone (O_3), particulates (PM_{10}), carbon monoxide (CO) and a "maintenance" area for oxides of nitrogen, which denotes that it had once been a nonattainment area for the pollutant. The South Coast Air Quality Management District (SCAQMD), the regional agency empowered to regulate stationary sources, maintains an extensive air quality monitoring network to measure criteria pollutant concentrations throughout the SCAB. Calculations for construction- and operation-related emissions are detailed below (see Appendix A – Air Emissions Worksheets):

Construction Emissions

The air quality impacts of construction and operations were evaluated using methods recommended in the SCAQMD's *CEQA Air Quality Handbook*. In addition, the SCAQMD has adopted air quality thresholds of significance for construction activities and project operations that are shown in Table 2. Air contaminant emissions would result from the use of construction equipment and personal occupancy vehicles. Equipment used for demolition and site preparation activities would consist of compactors, rollers, trucks, scrapers, loaders, excavators, backhoes, and construction workers that would be traveling to and from the project site.

TABLE 2: SCAQMD AIR QUALITY IMPACT SIGNIFICANCE THRESHOLDS

	Project Construction	**Project Operation**
Carbon Monoxide (CO)	550 lbs./day	550 lbs./day
Reactive Organic Compounds (ROC)	75 lbs./day	55 lbs./day
Nitrogen Oxides (NO_X)	100 lbs./day	55 lbs./day
Particulates (PM_{10})	150 lbs./day	150 lbs./day

lbs./day - pounds per day.

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993.

Project-related construction traffic would have a temporary adverse effect on air quality in the vicinity of the project. Construction workers' vehicles and diesel-powered equipment would emit NO_X, CO, SO_X, O_3, and PM_{10}. These emissions would increase local concentrations temporarily but would not be expected to increase the frequency of violations of air quality standards.

For the purpose of this analysis, the different phases of construction and their respective emissions are described under demolition, site clearance and grading and facilities construction and finishing.

Demolition, Site Clearance and Grading

During this phase of construction, the existing recreation building and outdoor basketball courts would be demolished and the areas would be cleared and graded. Construction debris and excess soils would be removed from the project site. The calculations for site clearance and grading activities assume that construction activities would occur for eight hours each day and that 20 employees would commute 60 miles round-trip to the project site each day.

It is further assumed that an estimated 440 truck trips (220 in and 220 out) would be necessary to remove all debris and unnecessary fill materials from the site. Thus, 10 trucks would travel 40 miles per day over a 44-day period. It is also assumed that the trucks would travel approximately 400 miles each day for transportation to regional disposal facilities. Based on these assumptions, site clearance and grading activities would not exceed significance thresholds established by SCAQMD (see Table 3).

TABLE 3: ESTIMATED AIR EMISSIONS FROM SITE CLEARANCE AND GRADING

Air Pollutant	Estimated Emissions (lbs/day)	SCAQMD Threshold (lbs/day)
Carbon Monoxide (CO)	19.53	550
Reactive Organic Compounds (ROC)	4.96	75
Nitrogen Oxides (NO_x)	84.27	100
Particulates (PM_{10})*	38.64	150

Source: SCAQMD, CEQA Air Quality Handbook, 1993; EMFAC2002.

Facilities Construction and Finishing

During this phase of construction, the proposed gymnasium and community center facility would be erected. Table 4 summarizes the calculated emissions for this phase of the project. The calculations assume that four delivery trucks travelling a maximum of 40 miles round-trip would arrive at the project site each day. In addition, the calculations assume the use of two forklifts, one compressor, one welder, one mortar mixer, one roller, and one paver for eight hours a day for 220 days, and that 40 employees would commute 60 miles round-trip to the project site. Based on these assumptions, construction and finishing activities would not exceed significance thresholds established by SCAQMD.

TABLE 4: ESTIMATED AIR EMISSIONS FROM FACILITIES CONSTRUCTION AND FINISHING

Air Pollutant	Estimated Emissions (lbs/day)	SCAQMD Threshold (lbs/day)
Carbon Monoxide (CO)	35.78	550
Reactive Organic Compounds (ROC)	31.46	75
Nitrogen Oxides (NO_x)	84.72	100
Particulates (PM_{10})	4.96	150

Source: SCAQMD, CEQA Air Quality Handbook, 1993; EMFAC2002.

Construction emissions would be short-term in nature and would not add to long-term air quality degradation. Further, the proposed project would implement standard SCAQMD-approved construction procedures, such as those provided in Tables 11-2 and 11-3 of the CEQA Air Quality Handbook, which may include, but are not limited to, development of a trip reduction plan, electricity from power poles rather than generators, etc.), and comply with applicable provisions of the most recently adopted SCAQMD Rule 403. Construction equipment would be shut off to reduce idling when not in direct use to reduce NO_x emission, and all diesel engines, motors, or equipment would be located as far away as possible from the existing residences. Further, Construction methods would include dust reduction activities such as the use of water trucks on-site and water sprayers during demolition activities to reduce PM_{10} emissions. Based on the above, construction-related emissions would not be considered significant.

Operation Emissions

The proposed project would generate new stationary source emissions associated with the consumption of electricity by on-site uses. Operational emissions were projected using Urbemis 2002, a model approved by the SCAQMD. Table 5 summarizes the calculated emissions from operations. There would be no significant impacts to regional air quality anticipated from operations of the proposed project.

TABLE 5: ESTIMATED AIR EMISSIONS FROM OPERATION

Air Pollutant	**Estimated Emissions (lbs/day)**	**SCAQMD Threshold (lbs/day)**
Carbon Monoxide (CO)	54.59	550
Reactive Organic Compounds (ROC)	4.05	55
Nitrogen Oxides (NO_x)	5.23	55
Particulates (PM_{10})*	4.59	150

Source: SCAQMD, CEQA Air Quality Handbook, 1993; Urbemis 2002.

Mobile source emissions would be associated with the vehicular trips to and from the gymnasium and community center facility. Most of the visitors to the project site would be from the neighboring areas. Based on the projected operational emissions, the proposed project would not exceed SCAQMD emissions' thresholds and therefore would be less than significant. No additional mitigation is required during operation of the proposed project.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The project site is bordered by sensitive receptors, primarily single family residences. However, as discussed above, construction impacts associated with the proposed project would be less than significant, and because of their short duration, these impacts are not anticipated to add to long-term air pollution problems. Due to the low level of trips generated by the project, criteria pollutant concentrations would be below the thresholds and not result in a significant impact to residents living adjacent to the project site. No mitigation measures are required.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. No activities would occur and no materials or chemicals would be stored on-site that would have the potential to cause substantial odors during the construction and operation of the proposed gymnasium and community center facility. Temporary odors associated with construction equipment exhaust emissions would occur but would be minimal outside of the immediate construction impact area. Therefore, significant adverse odor impacts would not occur. No mitigation measures are required.

IV. BIOLOGICAL RESOURCES

On August 31, 2003, an ESA biologist conducted a field reconnaissance survey of the project site. (See Appendix B for results of the survey).

Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporation. The project site and most of the surrounding area has already been developed or landscaped and is dominated by non-native landscape/ornamental vegetation. Plant species that exist on site include several trees such as pine (*Pinus ssp.*), California washingtonia (*Washingtonia filifera*), eucalyptus (*Eucalyptus globulus*), redwood (*Sequoia sempervirens*), fig (*Ficus ssp.*), and oak (*Quercus ssp.*). No endangered, threatened, or rare species or their habitats (including but not limited to plants, fish, insects, animals, and birds) are known to exist on the site.[1]

However, due to the number of trees on the proposed project site, birds or their nests that are protected by the federal Migratory Bird Treaty Act (MBTA) could be impacted by project construction. Implementation of the following mitigation measure would ensure that potential impacts to nesting migratory birds would be reduced to less than significant. No other impacts to potentially sensitive species would occur as a result of project implementation.

Mitigation Measure

M-IV.1. *A qualified biologist shall be retained to conduct pre-construction surveys for raptors and other nesting birds protected by the MBTA within 30 days prior to any ground-disturbing activities if proposed during the nesting season (approximately March through September). The results of the surveys shall be forwarded to the United States Fish and Wildlife Service and the Department of Fish and Game (as appropriate), and mandated avoidance procedures required by the agencies and monitoring biologist shall be adopted (i.e., no construction during nesting season or avoiding construction within a buffer zone specified by the agencies).*

1 California Department of Fish and Game. *Natural Diversity Database*. accessed January 22, 2004.

b) **Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

No Impact. No riparian habitats or sensitive natural communities are located at the project site; therefore, there is no potential for impacts on riparian habitat or sensitive natural communities. No mitigation measures are required.

c) **Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

No Impact. No wetland habitat has been identified or is known to exist on the project site; therefore, there is no potential for impacts to wetland habitat from project development. No mitigation measures are required.

d) **Interfere substantially with the movement of any native resident or migratory fish or wildlife corridors, or impede the use of native wildlife nursery sites?**

No Impact. Much of the area surrounding the site is developed with single family residences. Wildlife corridors do not exist on or near the project site and would not be affected by project implementation. Therefore, the project would not result in any disruption to wildlife movement or migration patterns. No mitigation measures are required.

e) **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Less than Significant Impact. The project site is developed and used as a park. Most of the surrounding area is also developed, consisting of single family residences. There are no known sensitive biological resources in the area. The proposed project would require the removal of one oak tree along the eastern boundary of the project site. In Los Angeles County, oak trees are protected by the Oak Tree Ordinance (Los Angeles County Code 22.56.2050). As required by the County Regional Planning Department to comply with the Oak Tree Ordinance, the one oak tree will be replaced at a ratio of 2 to 1 with minimum 36-inch box size trees at a location within the park mutually agreed to by Parks and Recreation staff and the County Forestor. Further, the existing redwood grove would be protected in place. None of the existing redwoods would be removed/replaced as part of the proposed project. Therefore, the tree removal would not result in a significant impact, and the proposed project would not conflict with any local policies or ordinances protecting such resources.

f) **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan?**

No Impact – The project site is not part of an adopted Habitat Conservation Plan, Natural Conservation Community Plan or other approved local, regional, or State habitat conservation plan.

V. CULTURAL RESOURCES

Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

No Impact. The project site is currently developed and used as a park. An archaeological records search was conducted for the park site.[2] One historic archaeological site was identified within a one-quarter mile radius of the site. The California State Historic Resources Inventory lists numerous historic properties within a one-half mile radius of the park. Neither the National Register of Historic Places, California Historical Landmarks nor the California Points of Historical Interest list any properties within a one-half mile radius of the site.

b) Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to §15064.5?

Less Than Significant Impact. The absence of prehistoric resources within a one-half mile radius of the project location indicates a low archaeological sensitivity rating for the site.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less Than Significant With Mitigation Incorporation. According to the records search, the site has a low archaeological sensitivity rating for prehistoric resources and a moderate rating for historic resources (see Appendix C).[3] A Phase I archaeological survey and monitoring would not be required during ground-disturbing activities.[4] If, however, cultural resources were exposed during ground-disturbing activities, a qualified archaeologist would be contacted to assess the significance of the find. It is unlikely that significant fossil material will be impacted by the proposed project.[5] Although no significant impacts are anticipated, in the event that fossil material is identified, a qualified paleontologist would be contacted to assess the significance of the find. The following mitigation measure (Mitigation Measure M-V.1.) is recommended to ensure impacts are less than significant to cultural resources.

Mitigation Measure

M-V.1. *In the event that subsurface cultural resources are encountered during excavation, the findings shall be examined by a qualified archaeologist/paleontologist, who shall examine the findings, assess their significance, and offer recommendations for any further investigation or mitigation measure. Work could continue on other parts of the project while unique archaeological/paleontological resource mitigation (if necessary) takes place.*

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2 W.H. Bonner Associates. *Archaeological Records Search-Loma Alta County Park.* May 24, 2000.
3 *Ibid.*
4 *Ibid.*
5 Natural History Museum of Los Angeles County. Letter to ESA dated July 16, 2003.

VI. GEOLOGY AND SOILS

Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

   ii) Strong seismic ground shaking?

Less Than Significant With Mitigation Incorporation. The site is not located within an Alquist-Priolo Earthquake Fault Zone.[6] However, based on previous investigations in the vicinity of the project site, an active trace of the Sierra Madre fault was identified approximately 325 feet north of the area where the gymnasium and community center facility are proposed (see Figure 10). Other faults identified in the area include the La Vina fault and the JPL Bridge fault.

A fault trenching study (Appendix D) conducted at the ballfield area in the northern portion of the site in August 1999 indicated that the hazard of surface fault rupture at the project site is considered low. The proposed project would represent a continuation of an existing use and, in and of itself, would not expose people or structures to potential impacts pertaining to seismic ground shaking. Since earthquake-related hazards cannot be avoided in the Southern California region, the project site could be subjected to ground motion which could adversely affect structures. All project structures and elements, including the proposed gymnasium and community center facility, would be constructed in compliance with earthquake-resistant standards required by existing building codes (e.g., Title 24 of the State Building Code). Therefore, this project is not expected to increase the risk of exposure of people to impacts involving fault rupture and seismic ground shaking. The inclusion of the following mitigation measure would ensure a less than significant impact.

Mitigation Measure

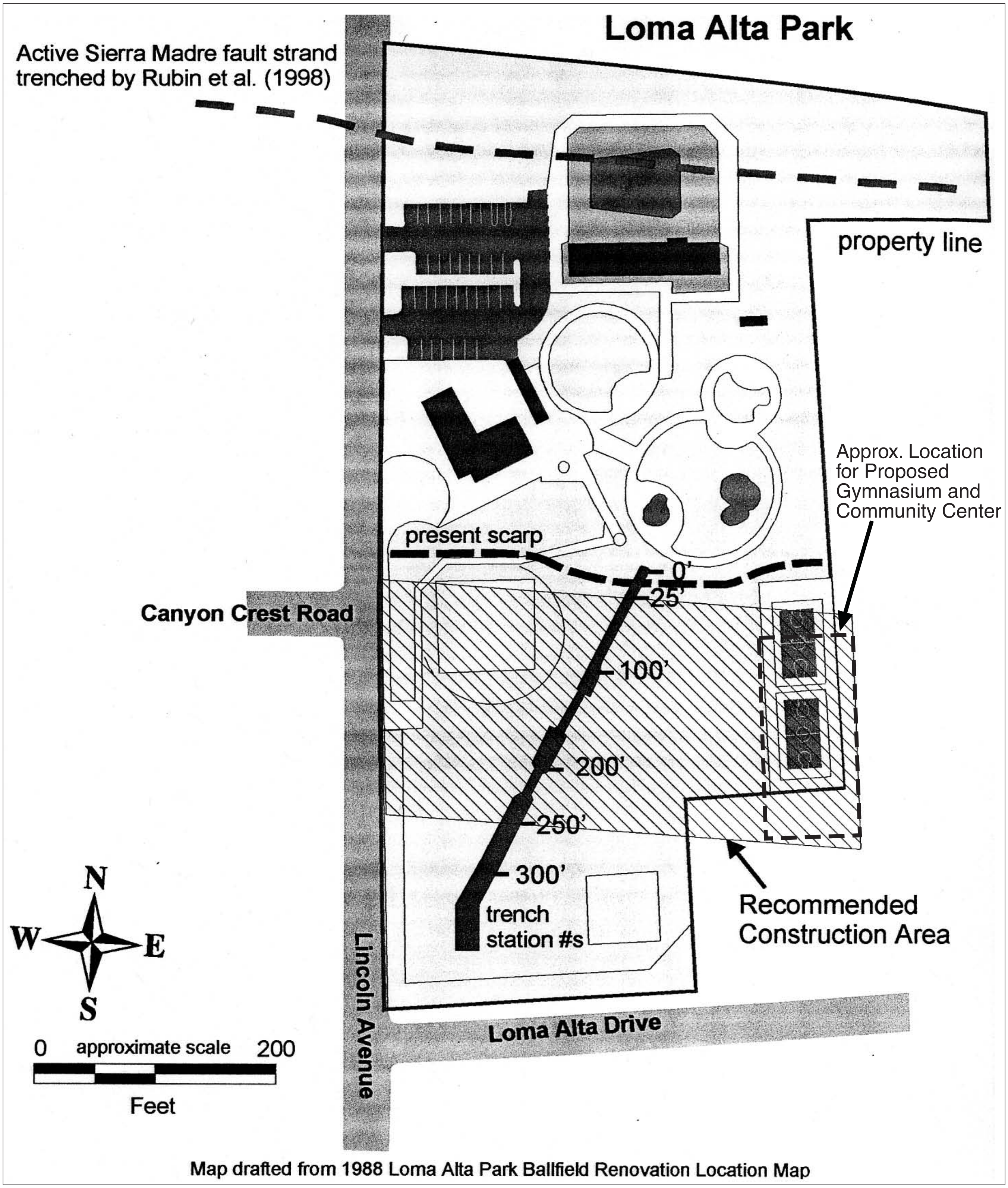
M-VI.1. *The proposed gymnasium and community center facility shall be constructed in accordance with all Title 24 requirements of the State Building Code and within the recommended construction area identified in the 1999 fault trenching study, as shown in Figure 10. The project construction documents shall be submitted to the Los Angeles County Department of Public Works, Building and Safety Division, for review and approval during the project design phase.*

   iii) Seismic-related ground failure, including liquefaction?

   iv) Landslides?

Less Than Significant Impact. Liquefaction usually occurs in areas of sandy or loose soils, where groundwater is less than 30 to 50 feet from the surface, and where there is a high intensity of ground motion. The absence of low-density soils and shallow ground water conditions indicate that the

6 Earth Consultants International, Inc. *Fault Investigation at the Proposed Gymnasium Site, Loma Alta Regional Park, Northeast of Lincoln Avenue and Loma Alta Street in the Altadena Area*. August 25, 1999.



SOURCE: Earth Consultants International, 1999.

Figure 10
Recommended Construction Area

potential for liquefaction at the project site is very low.[7] Further, the project site is not located in an area of liquefaction nor is it located in an area of earthquake-induced landslides.[8]

b) Result in substantial soil erosion or the loss of topsoil?

Less Than Significant Impact. The proposed project would not alter the existing topography within the project area. According to the geotechnical investigation (see Appendix E), the natural soils beneath the site consist of undocumented fill soils overlying natural alluvial soils.[9] The fill soils consist predominantly of silty sands with gravel and cobbles. The natural soils consist predominantly of silty sands, sands, and clayey sand with gravel and varying amounts of cobble and boulders. Since the majority of the site is already developed with recreational facilities, walkways and landscaped areas, substantial loss of topsoil is not anticipated. Significant erosion of site soils would not occur with the implementation of standard Best Management Practices during construction. Additionally, surface runoff from the project site would be controlled by the on-site drainage system to be constructed as part of the proposed project. No mitigation measures are required.

c) Be located on strata or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?

Less Than Significant With Mitigation Incorporation. As stated previously, a fault trenching study was conducted at the project site in August 1999. This study indicated that artificial fill was observed near the top of the trench. The fill varied in thickness from approximately three feet in the northern part of the athletic field to twelve feet in the southern part of the playing field.[10] The alluvial deposits exposed near the bottom of the trench were estimated to be early Holocene to late Pleistocene in age.[11] No evidence for surface or near-surface fault ruptures was observed in the trench exposure.[12] In addition, the soils at the site (undocumented artificial fill and upper alluvial soil deposits) are generally considered moderately compressible and exhibit a very low expansion potential.[13]

Implementation of the following mitigation measures and of the recommendations of the geotechnical investigation (refer to Appendix E) would reduce this impact to less than significant.

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7 Leighton and Associates. *Report of Preliminary Geotechnical Investigation for the Proposed Gymnasium, Loma Alta Park*. January 31, 2000.

8 *Ibid.*

9 *Ibid.*

10 Earth Consultants International, Inc. *Fault Investigation at the Proposed Gymnasium Site, Loma Alta Regional Park, Northeast of Lincoln Avenue and Loma Alta Street in the Altadena Area. August 25, 1999.*

11 *Ibid.*

12 *Ibid*.

13 Leighton and Associates. *Report of Preliminary Geotechnical Investigation for the Proposed Gymnasium, Loma Alta Park*. January 31, 2000.

Mitigation Measures

M-VI.2. *Existing fill materials and upper native soils within the proposed gymnasium and community center facility area shall be removed and recompacted as controlled fill prior to foundation excavation and prior to the placement of any additional compacted fill.*

M-VI.3. *Excavation shall extend a minimum of five feet beyond the edge of foundations, or for a distance equal to the depth of fill below the foundations, whichever is greater.*

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would not involve the use of septic tanks to handle its wastewater generation. Therefore, no impacts are anticipated, and no mitigation measures are required.

VII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact with Mitigation Incorporation. The project site is currently used as a park. The proposed project represents a continuation of an existing use and would include the construction of a gymnasium and community center facility, parking lot expansion and other park-related improvements. Implementation of the proposed project would include removal of asbestos-containing material (ACM), lead-based paint (LBP) and associated debris, and other possible hazardous materials. An asbestos and lead-based paint survey was conducted at the project site and found potentially hazardous materials at the existing recreation building that would be demolished as part of the proposed project.[14] The results of the survey are contained in Appendix F. These materials would be handled in accordance with the recommendations of the survey and, in conjunction with the following mitigation measures, would represent a less than significant impact during construction.

Operation of the project would not require the use or storage of significant quantities of hazardous substances; however, small amounts of everyday household cleaners and common chemicals used for landscaping and maintenance will be stored on-site.

Mitigation Measures

M-VII.1. *Prior to demolition work which would disturb identified ACMs, a licensed asbestos abatement removal contractor shall remove the ACMs.*

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[14] Ninyo & Moore. *Asbestos and Lead-Based Paint Survey – Loma Alta County Park Recreation Building*. December 30, 2003.

M-VII.2. *Prior to demolition work which would disturb identified LBPs, a licensed lead abatement removal contractor shall remove the LBPs.*

M-VII.3. *Prior to construction, notification as specified in applicable laws and regulations shall be given to building occupants, renovation contractors, and workers of the presence of asbestos and LBP.*

M-VII.4. *If during construction of the project, soil contamination is suspected, construction in the area shall stop, and the County of Los Angeles Department of Public Works shall be contacted to implement and oversee appropriate health and safety procedures and any required investigation and/or remediation in compliance with applicable laws and regulations.*

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less than Significant Impact. The proposed project would result in a less than significant impact on public health and safety or on a nearby school during upset and/or accidental conditions.

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The project site is currently developed with the existing Loma Alta County Park. The park would continue this function under the proposed project. The site is not identified as a hazardous materials site on the State of California Hazardous Waste and Substances Sites List of sites published by California Environmental Protection Agency (CAL/EPA). No mitigation measures are required.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The project site is not located within the immediate vicinity of any airport or private airstrip. Therefore, the proposed project would not result in a safety hazard for people residing or working in the project area or visiting the project site. No mitigation measures are required.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The proposed project would not interfere with a current emergency response plan or an emergency evacuation plan for local, state or federal agencies. All emergency procedures would be implemented within local, state, and federal guidelines during the construction and operation of the project. Therefore, no impacts are anticipated. No mitigation measures are required.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. Surrounding land uses are primarily developed and do not pose any fire hazard risk to the project site. On-site landscaping would be controlled through trimming and watering so as to reduce fire hazard impacts. Development of the gymnasium and community center facility, parking and other park related improvements would not expose any users to fire hazard from flammable brush, grass or trees. Therefore, no impacts are expected. No mitigation measures are required.

VIII. HYDROLOGY AND WATER QUALITY

Would the project:

a) Violate any water quality standards or waste discharge requirements?

Less Than Significant Impact. The project consists of new recreational facilities within an existing local community park. These uses do not generate hazardous or unusual wastewater discharges. The quality of stormwater runoff is regulated under the County's existing National Pollution Discharge Elimination System (NPDES) Permit. The NPDES Permit requires the implementation of Best Management Practices (BMPs) to control erosion, debris, and construction-related pollutants at all construction sites.

In compliance with the County of Los Angeles NPDES Permit, the project plans will include a local Stormwater Pollution Prevention Plan (SWPPP) with appropriate BMPs (from the "California Storm Water BMP Construction Handbook") for general site management, construction materials and waste management, and erosion and sediment control measures for implementation during the construction phase of the project. The project plans will be submitted to the Los Angeles County Department of Public Works, Building and Safety Division for review and approval during the project design phase and prior to issuance of the grading permit.

In addition to the local SWPPP, a Notice of Intent (NOI) and a State SWPPP will be filed with the State Water Resources Control Board since the project involves a disturbed area greater than one acre. The contractor will be required to prepare and submit the NOI and State SWPPP prior to issuance of the grading permit.

As part of the County NPDES Permit, certain types of development and re-development projects require the implementation of post-construction BMPs to reduce pollution from stormwater and urban runoff in compliance with the Standard Urban Stormwater Mitigation Plan (SUSMP) requirements. Since the proposed project will create an impermeable area of one acre or more and new parking areas exposed to stormwater runoff, the project will be required to comply with the SUSMP requirements. The project plans will call for the installation of fossil filters in all of the proposed on-site storm drain catch basins to reduce stormwater pollution from the project site. The project plans will be submitted to the Los Angeles County Department of Public Works, Building and Safety Division for review and approval during the project design phase and prior to issuance of the grading permit.

By incorporating the NPDES requirements mentioned above into the project construction documents, the project would have a less than significant impact on water quality. No mitigation measures are required.

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. The proposed project will not involve activities that will deplete groundwater supplies or interfere with groundwater recharge. No mitigation measures are required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems?

f) Otherwise substantially degrade water quality?

Less Than Significant Impact. The project site is currently developed as part of the existing local community park. The proposed project would introduce one new structure (the gymnasium and community center facility) and increased parking within a portion of the upper developed park site. Due to the small size of the project site, this is not expected to significantly alter the existing drainage patterns and/or increase surface runoff to result in substantial erosion, siltation, or flooding on or off the site. The project includes on-site drainage improvements to collect and transfer stormwater runoff from the project site to the existing storm drain system serving the area. Therefore, the project will not exceed the capacity of the existing storm drain system. In addition, the project includes construction and post-construction BMPs to reduce stormwater pollution from the project site such that it will not degrade water quality. No mitigation measures are required.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

h) Place housing within a 100-year flood hazard area structures which would impede or redirect flood flows?

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

No Impact. The proposed project would consist of a 13,500 square foot gymnasium and community center facility and associated site improvements to an existing developed park. The project site is not located within an area designated as 100-year or 500-year flood plain.[15] Therefore, construction and operation activities associated with the proposed project would not subject people or structures to significant flooding impacts. No mitigation measures are required.

j) Inundation of seiche, tsunami, or mudflow?

No Impact. The project site is not located near a body of water. Therefore, the potential for inundation by seiche, tsunami or mudflow is very low, if non-existent. Therefore, development and

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[15] U.S. Federal Emergency Management Agency, *Federal Emergency Management Agency National Flood Insurance Program Map No. 0650430650B Zone C: Revised July 6, 1998.* Washington D.C.: U.S. Federal Emergency Management Agency.

operation of the park would not subject people or structures to inundation by seiche, tsunami, or mudflow. No mitigation measures are required.

IX. LAND USE AND PLANNING

Would the project:

a) Physically divide an established community?

No Impact. The project site is located in an area that contains single family residences. The existing park consists of approximately 16.5 acres. The proposed gymnasium and community center facility, surface parking areas, and site improvements would be developed within the existing park and would not result in the division of the existing community or significantly impact low income or minority resources. The proposed improvement project would be considered a beneficial impact on the surrounding community. No mitigation measures are required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The project site is designated public and private recreation and is located in the R-1 Residential zone. The site is currently used as a park site and would continue this function with implementation of the proposed project. The proposed improvements would not conflict with general plan or zoning designations. No mitigation measures are required.

c) Conflict with any applicable habitat conservation plan or natural communities conservation plan?

No Impact. The majority of land uses in the immediate vicinity of the project are residential uses, with some commercial and open space uses. There are no known habitat or natural communities conservation plans for the project area. Therefore, the proposed project would not conflict with any conservation plans. No mitigation measures are required.

X. MINERAL RESOURCES

Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No Impact. Development of the proposed project would not be expected to result in the loss of availability of any known mineral resources that would be of future value to the region and/or residents of the State. Construction of the proposed improvements will utilize building materials from existing commercial sources and will not require the development of new mineral resources.

The proposed project would not be expected to result in the loss of availability of any locally important mineral resource recovery site delineated on any land use plan. No mitigation measures are required.

XI. NOISE

Would the project:

- **a)** **Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**
- **b)** **Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?**
- **c)** **A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**
- **d)** **A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

Less Than Significant With Mitigation Incorporation. Sound is defined as any pressure variation detected by the human ear. Noise is defined as any unwanted sound. The preferred unit for measuring sound is the decibel (dB). The dB expresses the logarithmic ratio of the amount of energy radiating from a source in the form of an acoustic wave.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts on people, an electronic filter is used that de-emphasizes certain frequencies in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). L_{eq} is the equivalent sound level, which is used to describe average noise levels over a specified period of time. On average, noise attenuates (lessens) at a rate of six dBA for every doubling of distance from a source, depending on environmental conditions (e.g., atmospheric conditions, noise barriers, ground covering, etc.).

The proposed project is located in an area primarily consisting of residential uses, with some commercial and open space uses. These residences, which qualify as noise sensitive land uses, would potentially be exposed to noise generated from on-site construction activities. The distance from the boundary of the proposed construction activities to the closest single-family residences located adjacent to the project site is approximately 150 feet.

Construction noise levels at and near the project site during both the short-term and long-term project would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. Construction of the proposed project is anticipated to be completed within a 12 to 15 month period. Table 6 shows noise levels associated with various types of construction related machinery. According to this table and the average noise attenuation rate, noise levels as high as 77 dBA could be experienced by adjacent sensitive receptors without mitigation. The Noise Control Ordinance of the County of Los Angeles (Title 12, Chapter 12.08 1995) sets the maximum exterior noise level for temporary intermittent construction noise at 75 dBA at any single-family residences between the hours of 7:00 a.m. and 8:00 p.m. (Monday-Saturday, except Sundays and holidays). Table 7 outlines the restrictions of the County Noise Control Ordinance.

TABLE 6: DEMOLITION AND CONSTRUCTION EQUIPMENT SOURCE NOISE LEVELS

Equipment Type	Typical Equipment at 50 ft. (in dBA)	Quieted Equipment at 50 ft. (in dBA)[a]
Air Compressor	81	71
Backhoe	85	80
Concrete Pump	82	80
Concrete Vibrator	76	70
Concrete Breaker	82	75
Truck Crane	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic Tools	85	75
Water Pump	76	71
Power Hand Saw	78	70
Shovel	82	80
Trucks	88	83

a. Quieted equipment can be designed with enclosures, mufflers, or other noise-reducing features.

Source: Bolt, Beranek, and Newman, *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances, U.S. Environmental Protection Agency*, 1971.

TABLE 7: LOS ANGELES COUNTY CONSTRUCTION NOISE ORDINANCE

	Single Family Residential	Multi-Family Residential	Semi-residential/ Commercial
Mobile Equipment (Less than 10 days)			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75dBA	80dBA	85dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	60dBA	64dBA	70dBA
Stationary Sources (More than 10 days)			
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60dBA	65dBA	70dBA
Daily, 8:00 p.m. to 7:00 a.m. and all day Sunday and legal holidays	50dBA	55dBA	60dBA

Source: Los Angeles County Code, Title 12, Chapter 12.08 978.

The significance of construction noise levels would depend on the distance (and the presence or absence of barriers) between the construction site and the closest receptor. Short-term construction impacts would be mitigated to acceptable levels by measures specified in the Los Angeles Noise Code, Section 12.08.440 (C) (D) and the mitigation measures identified below. Construction noise levels at and near the project site would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. This analysis identifies general impacts associated with typical construction projects.

In the unlikely event that all of the equipment is operating simultaneously throughout the construction phase of the proposed project, the noise levels at the closest residence would vary between 72 and 83 dBA. Construction noise would be temporary and intermittent impacts only during daytime hours, which is the least noise-sensitive time of the day. With the implementation of the following mitigation measures, noise impacts during construction would be reduced to less than significant levels.

Under the proposed project, the site would continue its use as a neighborhood park. Most of the visitors would be from the neighboring areas and would either walk or bike to the site. As discussed in Transportation/Traffic Section, the proposed project is not anticipated to result in significant traffic impacts. The noise level generated by the operation of the proposed project due to the project-generated trips would be similar to the existing noise levels. Therefore, noise associated with the operation of the proposed project is not expected to result in significant effects on ambient noise levels. No mitigation measures are required for project operation.

Mitigation Measures

M-XI.1. *Project construction shall comply with the County of Los Angeles Noise Ordinance. Construction activities shall be limited to the hours of 7:00 a.m. to 8:00 p.m. on Mondays- Saturdays, excluding holidays, unless otherwise approved by Los Angeles County.*

M-XI.2. *All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.*

M-XI.3. *During construction, mufflers and noise attenuating devices shall be employed to reduce noise generated during construction to acceptable levels meeting the County Construction Noise Ordinance.*

M-XI.4. *Loading and staging areas onsite shall be located at least 50 feet away from existing residential areas.*

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport of public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The project site is not located within the immediate vicinity of any airport or private airstrip. The proposed project would not expose people residing or working in the project area or people visiting the project site to excessive noise levels from airports or airstrips. No mitigation measures are required.

XII. POPULATION AND HOUSING

Would the project:

a) **Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**
b) **Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**
c) **Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?**

No Impact. The project site is located in a developed residential area that contains single family residences. The site is currently used as a park. The proposed construction of the gymnasium and community center facility, surface parking areas and site improvements would help address the current deficiency for parkland and recreational facilities in the area. No significant growth-inducing impacts are anticipated to result from the proposed project. Additionally, the proposed project is not anticipated to displace individuals or existing housing. No mitigation measures are required.

XIII. PUBLIC SERVICES

Would the project:

a) **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:**

Fire protection?

Less Than Significant Impact. Currently, fire protection for the project site is provided by Los Angeles County Fire Department, Station 12. Fire Station 12 is located approximately 0.6 miles from the project site at 2760 North Lincoln Avenue in Altadena. The estimated response time for Station 12 is less than five minutes.[16]

Paramedic service for the project site is provided by Los Angeles County Fire Department, Station 11, which is located approximately 2.2 miles from the project site at 2521 N. El Molino Avenue in Altadena.

The project involves construction of a gymnasium and community center facility, surface parking areas, and site improvements. According to the Los Angeles County Fire Department, fire protection serving the project area is adequate for the site. Implementation of the project would be in accordance with the latest Los Angeles County Fire Department codes and guidelines for construction, access, water mains, fire flows and hydrants. Therefore, the proposed project is not anticipated to create demand for additional fire protection services. No mitigation measures are required.

[16] Hackworth, Scott. Fire Station #12, Los Angeles County Fire Department, Personal communication on June 20, 2003.

Police protection?

Less Than Significant Impact. The Los Angeles County Sheriff Department Altadena Sheriff Station, located approximately 1.5 miles from the project site at 780 E. Altadena Drive in Altadena currently services the project site. According to the Sheriff's Department, the average emergency response time to the project site is approximately one to five minutes.[17]

Construction areas would be secured throughout the course of construction activities as necessary to ensure the safety of the public. Additionally, the proposed project would include security lighting to maintain security and safety. Therefore, the proposed project would not create a demand for additional police services. No mitigation measures are required.

Schools?

No Impact. The proposed project would not have any growth-inducing effects. Most of the park visitors would be from neighboring areas; therefore, no impacts on school enrollment are expected. No mitigation measures are required.

Parks?

Less Than Significant Impact with Mitigation Incorporation. The proposed project would serve the residents in the project area and is not anticipated to generate any additional population and, therefore, would not increase demand for neighborhood or regional parks or other recreational facilities. Conversely, it would improve an existing park by removing the existing outdoor basketball courts and recreation building and constructing a new gymnasium (including basketball courts) and community center facility, additional surface parking areas, and other park-related site improvements. The proposed project would have a beneficial effect on parks and recreational opportunities by improving an existing park facility. The park would remain open during proposed construction activities. However, to minimize the construction period, the demolition of the recreation building may commence up to three months prior to completion and occupancy of the new gymnasium and community center facility. If this situation occurs, the recreation programs held in the recreation building would be temporarily relocated to the closest County facilities to the greatest extent feasible. The equestrian trail that extends along the eastern boundary of the northern portion of the park would need to be removed to accommodate the proposed park improvements. However, the trail would be relocated off-site prior to construction of the proposed improvements. Incorporation of the following mitigation measures would ensure a less than significant impact.

Mitigation Measures

M-XIII.1. *If the gymnasium and community center facility is not ready for occupancy prior to demolition of the recreation building, the recreation programs shall be relocated to the closest County facilities to the greatest extent feasible.*

M-XIII.2. *The equestrian trail that extends along the eastern boundary of the northern portion of the park shall be relocated off-site prior to construction of the proposed park improvements.*

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17 Hahnlein, Rob, Altadena Station, Los Angeles Sheriff Department, Personal communication on June 20, 2003.

Other public facilities?

No Impact. The project is not expected to significantly affect any other public facilities in the area. No impacts are anticipated. No mitigation measures are required.

XIV. RECREATION

Would the project:

a) **Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

No Impact. The proposed project would not increase demand for neighborhood or regional parks. Conversely, it would improve an existing park by removing the existing outdoor basketball courts and community center and constructing a new gymnasium and community center facility, additional surface parking areas, and other park related site improvements. The proposed project would have a beneficial effect on parks and recreational opportunities by improving an existing park facility. The existing park would remain open during construction activities. No negative impacts to recreation are anticipated. No mitigation measures are required.

b) **Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

No Impact. Currently, the site is used as a park. The proposed project would include the construction of a gymnasium and community center facility, additional surface parking areas and other park related site improvements. This would help alleviate the deficiency in recreation facilities in the area. No mitigation measures are required.

XV. TRANSPORTATION/CIRCULATION

Would the project:

a) **Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections)?**

b) **Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?**

Less Than Significant with Mitigation Incorporation. A traffic analysis of Loma Alta County Park was performed for the project in May 2004 (See Appendix G). The following discussion summarizes the findings of the analysis.

EXISTING CONDITIONS

Loma Alta Park generally serves local area residents. Local roadways include Lincoln Avenue, Loma Alta Drive, Palm Street, Alta Dena Drive, Dabney Street, and Sunset Ridge Road. The roadways adjacent to the project site are described below.

Lincoln Avenue forms the western border of the northern portion of the park. It provides primary access to the park as access to the parking lot is via two driveways located on Lincoln Avenue. Adjacent to the park, Lincoln Avenue is approximately 35 feet in width. North of Loma Alta Drive, the east curb of Lincoln Avenue has been painted red. The length of the red curb runs generally along the length of the park ball field. The remaining curbside is available for parking. North of the park, Lincoln Avenue serves as an entrance to La Vina gated residential community. The speed limit is 30 MPH with a 25 MPH park advisory speed limit posted adjacent to the project site.

Loma Alta Drive splits the northern and southern portions of the park and is a two-lane collector street with a 39-foot street width. It provides secondary access to the park. The speed limit is 30 mph. On the south side of the street, the adjacent land uses are single family residential. On-street parking is permitted on Loma Alta Drive.

Palm Street is a two-lane local street. The speed limit is 30 mph, and on-street parking is permitted. The adjacent land uses are single family residential. It forms the southern border of the southern portion of the park. On-street parking is provided on both sides of the street.

Altadena Drive is a two-lane local street. The speed limit is 30 mph, and on-street parking is permitted. The adjacent land uses are single family residential.

Dabney Street is a two-lane local street. The speed limit is 30 mph and on-street parking is permitted. The adjacent land uses are single family residential. It forms the eastern border of the southern portion of the park.

Sunset Ridge Road is a two-lane local street that serves as the eastern border of the northern portion of the park. The road provides access to a new single-family subdivision, which is north of the park. It would also provide primary access to the new gymnasium and community center facility and new parking lots. On the west side of the Sunset Ridge Road (in the park) there is an equestrian trail which connects an equestrian activity center in the southern portion of the park with trails to the north. The roadway is approximately 38 feet in width and undeveloped along its frontage.

Foothill Freeway (I-210) is about two miles to the south. It provides regional access to the site via an interchange at Lincoln Avenue.

TRANSIT

The Los Angeles County Metropolitan Transportation Authority (MTA) has two lines, which provide transit service to the park. These include Line 180 and Line 267. These lines operate on Fair Oaks Avenue and Lincoln Avenue, respectively.

ANALYSIS OF EXISTING CONDITIONS

The two major intersections adjacent to the park (Loma Alta Drive at Lincoln Avenue and Loma Alta Drive at Sunset Ridge Road) were selected for a weekday PM peak hour (4-6 PM) analysis. Projects are generally assessed to determine if they will result in an increase in local and regional traffic volumes. Peak travel periods, traditionally the AM (7-9 AM) and PM weekday commuting periods, are studied to determine whether area roadways can accommodate the additional traffic. Based on the low number (if any) of programs at the proposed facility prior to 9 AM on the weekdays, the trip generation of the park during the AM peak hour on the adjacent roadway would be minimal.

The analysis of peak hour intersection Level of Service (LOS) is the primary indicator of circulation system performance. The LOS during the peak hour at intersections ranges from LOS A (little or no delay) to LOS F (extreme delays potentially affecting other traffic movements in the intersection). For further clarification of LOS, see Appendix A of the Traffic Analysis. As shown below in Table 8, the study intersections currently operate with little or no delay (LOS A) during the weekday PM peak hour.

TABLE 8: EXISTING ROADWAY CONDITIONS (WEEKDAY PM PEAK HOUR)

Intersection	**Existing Conditions (Avg. Delay – LOS)**
Loma Alta Drive/Lincoln Avenue	9.2 sec. – A
Loma Alta Drive/Sunset Ridge Road	2.7 sec. - A

Source: Katz Okitsu & Associates, *Traffic and Parking Analysis for the Loma Alta County Park New Gymnasium and Community Center Project, May 7, 2004.*

PROJECT TRIP GENERATION FORECAST

During the weekday PM peak hour, the proposed project is expected to generate more use and hence a higher level of activity. Trip generation is dependent upon the planned use and schedule of activities at the gymnasium and community center facility.

A typical case scenario for program attendance was developed to determine the maximum number of trips that could be generated by the gymnasium and community center facility and includes the following assumptions:

- An organized sporting event with 20 participants,
- All 100 bleacher seats are fully occupied,
- 40 people using the community center,
- All participants are either arriving or departing during the same hour, and
- All vehicles have an average occupancy of 1.5 occupants per vehicle.

The trip generation for this scenario is summarized in Table 9 below:

For purposes of providing a typical case analysis, it is assumed that these trips will occur during the weekday PM peak hour.

PROJECT TRIP DISTRIBUTION FORECAST

The Institute of Transportation Engineers Trip Generation Manual, 7th Edition data shows that a recreational community center (Land Use 495) has 38% entering trips and 62% exiting trips during

TABLE 9: TYPICAL CASE TRIP GENERATION

Trip Generator	Participants (1.5 occupants/vehicle)	Trip Generation IN or OUT
Sport Participants	20 players	14
Spectators	100 spectators	66
Community Center Area Users	40 people	27
TOTAL	--	**107**

Source: Katz Okitsu & Associates, *Traffic and Parking Analysis for the Loma Alta County Park New Gymnasium and Community Center Project*, May 7, 2004.

the weekday PM peak hour. These rates were used in the analysis. It was also assumed that all trips attributed to the project would have the parking lots located along Sunset Ridge Road as the preferred point of origin and/or destination.

Directional trip distribution of the 107 trips listed in Table 9 was based on observed volumes during the weekday PM peak hour at the study intersections (Loma Alta Drive at Lincoln Avenue and Loma Alta Drive at Sunset Ridge Road). The directional trip distribution used in the analysis is as follows:

Lincoln Avenue to the north –	24%
Lincoln Avenue to the south –	60%
Loma Alta Drive to the east –	13%
Sunset Ridge Road to the north –	3%

As shown in Table 10 below, based on the project trip generation and distribution forecasts, the two study intersections would remain operating with little or no delay (LOS A) during the weekday PM peak hour, with the addition and operation of the proposed project. Therefore, the proposed project would not have a significant impact on the surrounding street system and intersections. No mitigation measures are required.

WEEKEND TRIP GENERATION

Ambient traffic volumes on local roadways during the weekend are traditionally lower than weekday volumes. The same scenario (i.e., the proposed project would generate the same number of trips) is assumed to take place during the weekend hours, most likely during the morning or afternoon.

However, the traffic impacts associated with the proposed project during the weekend hours would be less than those experienced during weekdays, due to the reduced ambient traffic volumes on local roadways.

TABLE 10: EXISTING AND "WITH PROJECT" ROADWAY CONDITIONS (WEEKDAY PM PEAK HOUR)

Intersection	**Existing Conditions (Avg. Delay – LOS)**	**"With Project" Conditions (Avg. Delay – LOS)**
Loma Alta Drive/Lincoln Avenue	9.2 sec. – A	9.8 sec. – A
Loma Alta Drive/Sunset Ridge Road	2.7 sec. - A	3.8 sec. - A

Source: Katz Okitsu & Associates, *Traffic and Parking Analysis for the Loma Alta County Park New Gymnasium and Community Center Project, May 7, 2004.*

CONSTRUCTION TRAFFIC

Construction activities would contribute a maximum of 100 average daily trips to and from the construction areas to accommodate worker commutes and deliveries. This corresponds to a maximum of 40 construction workers commuting to and from the site and 10 trucks delivering construction materials to and hauling excavated/demolished material from the project site each day. Therefore, a maximum of 50 PM peak hour trips (less than one trip per minute) would actually occur on local roadways as a result of project construction. These trips would be considered temporary and smaller in scale than the daily traffic anticipated during project operation. Further, construction-related traffic associated with large equipment and construction materials hauling would occur outside of weekday peak traffic hours of 7:00 to 9:00 AM and 4:00 to 6:00 PM, Monday through Friday.

As shown above, the addition of project construction-related trips on the surrounding street network would not result in a significant impact during the weekday or weekend PM peak hour.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed project would not generate air traffic nor affect such activities. No mitigation measures are required.

d) Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed project would not change street configuration in the project area. Therefore, no hazards associated with a design feature would occur. No mitigation measures are required.

e) Result in inadequate emergency access?

No Impact. No changes in access to emergency facilities or nearby land uses are expected to occur as a result of implementation of the project. Further, adequate emergency access would be provided to the new gymnasium and community center facility to meet Los Angeles County Fire Department Standards and Guidelines. No mitigation measures are required.

f) Result in inadequate parking capacity?

No Impact. Loma Alta County Park currently provides a total of 78 parking spaces, including 38 spaces in the northern portion of the park and 40 spaces in the southern portion of the park. The proposed project would result in a total of 171 parking spaces in the park, including 131 spaces in the northern portion of the park and 40 spaces in the southern portion of the park. The project site plan showing the parking configuration has been reviewed and approved by the County Regional Planning Department for the proposed improvements. Therefore, the new on-site parking lots would provide sufficient parking opportunities to accommodate the increased parking demand created by the proposed project. No mitigation measures are required.

g) Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

No Impact. The proposed project is expected to serve the residents in the greater Altadena and northern Pasadena areas. The proposed project would not conflict with adopted policies supporting alternative transportation as set forth in Section 5.0 of the Altadena Community Plan, as adopted in July 1986, and Section 5.0 (Transportation Element) of the Los Angeles County General Plan. As a result, no significant impacts would result from the proposed project. No mitigation measures are required.

XVI. UTILITIES AND SERVICE SYSTEMS

Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. Wastewater flows originating from the proposed project would discharge to a local sewer line for conveyance to the County Sanitation Districts Lincoln Avenue Trunk Sewer, located in Lincoln Avenue at Palm Street. This 10-inch diameter sewer has a design capacity of 0.89 million gallons per day (mgd) and a conveyed peak flow of 0.28.[18]

The wastewater generated by the proposed project would be treated at either the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry or the Whittier Narrows WRP located near the City of South El Monte. The San Jose Creek WRP has a design capacity of

18 Frazen, Ruth, Engineering Technician, County Sanitation Districts of Los Angeles County. Letter to County of Los Angeles Department of Public Work, forwarded to ESA, dated August 16, 2004.

100 mgd and currently processes an average flow of 88.9 mgd, the Whittier Narrows WRP has a design capacity of 15 mgd and currently processes an average flow of 7.4 mgd. Upon completion of the proposed project, Loma Alta County Park would generate approximately 0.0027 mgd of wastewater,[19] which would be similar to existing conditions and would not exceed the existing capacities of the nearby sewer lines. Therefore, the existing infrastructure would have the capacity to handle wastewater flow from the proposed project site.

Further, water usage under the proposed project would be similar to the existing park use, as the function of the site would not change. Therefore, impacts to wastewater treatment and water treatment would be less than significant. No mitigation measures are required.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The proposed project is not expected to substantially increase storm water runoff in the project area. The project site is already developed with the existing Loma Alta County Park. The proposed gymnasium and parking lots and other park-related improvements would not require the construction of additional storm water drainage systems beyond the limits of the project site. An on-site storm drain system would be constructed as part of the proposed project to collect surface runoff and prevent erosion as a result of the additional on-site development. No impact would occur. No mitigation measures are required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less Than Significant Impact. The proposed project is not anticipated to generate a significant amount of wastewater, as the primary use on-site that would generate wastewater would be the restrooms to be located in the gymnasium and community center facility (Refer to discussion of wastewater flows in Section XVI a and b). Landscaping and irrigation improvements are included under the proposed project. Water usage under the proposed project would be similar to the existing park use. No new wastewater and water systems would be required. Therefore, impacts to wastewater treatment and water treatment would be less than significant. No mitigation measures are required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

Less Than Significant Impact with Mitigation Incorporation. The proposed project would not require new solid waste facilities. Construction debris would be recycled or transported to the nearest landfill site and disposed of appropriately. The amount of debris generated during project operation is not expected to significantly impact landfill capacities; solid waste generation at the gymnasium would be minimal. The proposed project would comply with applicable regulations related to solid waste. Operation of the proposed project would be subject to the requirements set forth in the County's Solid Waste Management Program which presently requires each City and the

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19 *Ibid.*

County to divert 25% of its solid waste from landfill disposal through source reduction, recycling and composting and by 50% by 2000. Inclusion of the following mitigation measures would ensure a less than significant impact.

Mitigation Measures

M-XVI.1. *During construction, inert materials, including vegetative matter, asphalt, concrete, and other recyclable materials, shall be recycled to the greatest extent feasible .*

M-XVI.2. *The County shall implement a recycling program at the new facility to minimize the amount of solid waste generated by the project site to be disposed of in County landfills.*

M-XVI.3. *Space shall be allocated either within the building or in outdoor areas for collection and storage of recyclable materials.*

XVII. MANDATORY FINDINGS OF SIGNIFICANCE

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

No Impact. The analysis conducted in this Initial Study results in a determination that the project, either individually or cumulatively, would not have a significant effect on the local environment. The site is presently developed and devoid of fish or significant wildlife, and/or plant populations. The proposed project would not have the potential to degrade the environment in this regard as it would make improvements to an existing park. No intrusion on cultural resources is anticipated to occur.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

No Impact. The analysis in this Initial Study has determined that the proposed project would not have any cumulatively considerable impacts.

d) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?

No Impact. As indicated in the discussions of the Initial Study, the proposed project would not cause substantial adverse effects on human beings, either directly or indirectly.

SECTION 4.0

LIST OF MITIGATION MEASURES INCORPORATED INTO THE PROJECT

BIOLOGICAL RESOURCES

M-IV.1. *A qualified biologist shall be retained to conduct pre-construction surveys for raptors and other nesting birds protected by the MBTA within 30 days prior to any ground-disturbing activities if proposed during the nesting season (approximately March through September). The results of the surveys shall be forwarded to the United States Fish and Wildlife Service and the Department of Fish and Game (as appropriate), and mandated avoidance procedures required by the agencies and monitoring biologist shall be adopted (i.e., no construction during nesting season or avoiding construction within a buffer zone specified by the agencies).*

CULTURAL RESOURCES

M-V.1. *In the event that subsurface cultural resources are encountered during excavation, the findings shall be examined by a qualified archaeologist/paleontologist, who shall examine the findings, assess their significance, and offer recommendations for any further investigation or mitigation measure. Work could continue on other parts of the project while unique archaeological/paleontological resource mitigation (if necessary) takes place.*

GEOLOGY AND SOILS

M-VI.1. *The proposed gymnasium and community center facility shall be constructed in accordance with all Title 24 requirements of the State Building Code and within the recommended construction area identified in the 1999 fault trenching study, as shown in Figure 10. The project construction documents shall be submitted to the Los Angeles County Department of Public Works, Building and Safety Division, for review and approval during the project design phase.*

M-VI.2. *Existing fill materials and upper native soils within the proposed gymnasium and community center facility area shall be removed and recompacted as controlled fill prior to foundation excavation and prior to the placement of any additional compacted fill.*

M-VI.3. *Excavation shall extend a minimum of five feet beyond the edge of foundations, or for a distance equal to the depth of fill below the foundations, whichever is greater.*

HAZARDS AND HAZARDOUS MATERIALS

M-VII.1. *Prior to demolition work which would disturb identified ACMs, a licensed asbestos abatement removal contractor shall remove the ACMs.*

M-VII.2. *Prior to demolition work which would disturb identified LBPs, a licensed lead abatement removal contractor shall remove the LBPs.*

M-VII.3. *Prior to construction, notification as specified in applicable laws and regulations shall be given to building occupants, renovation contractors, and workers of the presence of asbestos and LBP.*

M-VII.4. *If during construction of the project, soil contamination is suspected, construction in the area shall stop, and the County of Los Angeles Department of Public Works shall be contacted to implement and oversee appropriate health and safety procedures and any required investigation and/or remediation in compliance with applicable laws and regulations.*

NOISE

M-XI.1. *Project construction shall comply with the County of Los Angeles Noise Ordinance. Construction activities shall be limited to the hours of 7:00 a.m. to 8:00 p.m. on Mondays- Saturdays, excluding holidays, unless otherwise approved by Los Angeles County.*

M-XI.2. *All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.*

M-XI.3. *During construction, mufflers and noise attenuating devices shall be employed to reduce noise generated during construction to acceptable levels meeting the County Construction Noise Ordinance.*

M-XI.4. *Loading and staging areas onsite shall be located at least 50 feet away from existing residential areas.*

PUBLIC SERVICES

M-XIII.1. *If the gymnasium and community center facility is not ready for occupancy prior to demolition of the recreation building, the recreation programs shall be relocated to the closest County facilities to the greatest extent feasible.*

M-XIII.2. *The equestrian trail that extends along the eastern boundary of the northern portion of the park shall be relocated off-site prior to construction of the proposed park improvements.*

UTILITIES AND SERVICE SYSTEMS

M-XVI.1. *During construction, inert materials, including vegetative matter, asphalt, concrete, and other recyclable materials, shall be recycled to the greatest extent feasible .*

M-XVI.2. *The County shall implement a recycling program at the new facility to minimize the amount of solid waste generated by the project site to be disposed of in County landfills.*

M-XVI.3. *Space shall be allocated either within the building or in outdoor areas for collection and storage of recyclable materials.*

SECTION 5.0

LIST OF PREPARERS

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SECTION 6.0

REFERENCES

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SECTION 7.0

RESPONSES TO COMMENTS RECEIVED ON THE MITIGATED NEGATIVE DECLARATION

The Draft Mitigated Negative Declaration/Initial Study (MND/IS) for the Loma Alta County Park Gymnasium and General Improvement Project was made available for public review pursuant to State CEQA Guidelines, Section 15073, for a period of 30 days, beginning on August 9, 2004 and ending on September 7, 2004.

Five written comment letters from public agencies and two emails from a private citizen were received during the 30-day public review period for the Draft MND/IS. Copies of the written comments and responses to those comments are included herein.

Appropriate revisions to the MND/IS made in response to comments and information received are identified by <u>underline</u> for new text and ~~strikethrough~~ for removed text, as illustrated in this sentence. Minor clarifications were added to the document which are also indicated in the same manner. These clarifications do not alter the significance of the impacts of the proposed projects, nor do they change the conclusions reached in the Draft MND/IS. Therefore, recirculation under State CEQA Guidelines, Section 15073.5, is not required since the clarifications do not constitute "substantial revisions."

The following written comment letters/emails were received during the public review period.

STATE AGENCIES

S1. Terry Roberts, Director, State Clearinghouse, Governor's Office of Planning and Research. September 8, 2004.

S2. Michael Iskarous, Acting Unit Chief, Southern California Operations Branch – Glendale Office, California Department of Toxic Substances Control. September 7, 2004.

LOCAL AGENCIES

L1. Jeffrey M. Smith, AICP, Senior Regional Planner, Intergovernmental Review, Southern California Association of Governments. August 24, 2004.

L2. Ruth I. Frazen, Engineering Technician, Planning & Property Management Section, County Sanitation Districts of Los Angeles County. August 16, 2004.

L3. David R. Leininger, Chief, Forestry Division, Prevention Bureau, County of Los Angeles Fire Department. September 21, 2004.

INDIVIDUALS

I1. Daniel Singer. Email dated August 31, 2004 at 1:38 PM.

I2. Daniel Singer. Email dated August 31, 2004 at 1:44 PM.

LETTER S1

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Jan Boel
Acting Director

September 8, 2004

Mike Patel
Los Angeles County Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

Subject: Loma Alta County Park Gymnasium and General Improvement Project
SCH#: 2004081048

Dear Mike Patel:

The State Clearinghouse submitted the above named Negative Declaration to selected state agencies for review. The review period closed on September 7, 2004, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. S1-1

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Document Details Report
State Clearinghouse Data Base

SCH#	**2004081048**
Project Title	Loma Alta County Park Gymnasium and General Improvement Project
Lead Agency	Los Angeles County Department of Public Works

Type **Neg** Negative Declaration

Description The proposed project consists of the renovation and improvement of the existing 16.5-acre Loma Alta County Park. The proposed project would include the construction of an approximately 13,500 sf gymnasium and community center facility, associated parking and the improvement of existing lighting, landscaping and walkways.

Lead Agency Contact

Name Mike Patel
Agency Los Angeles County Department of Public Works
Phone 626-300-2359 ***Fax***
email
Address 900 South Fremont Avenue
City Alhambra ***State*** CA ***Zip*** 91803-1331

Project Location

County Los Angeles
City
Region
Cross Streets Lincoln Avenue / Loma Alta Drive
Parcel No.
Township ***Range*** ***Section*** ***Base***

Proximity to:

Highways I-210
Airports
Railways
Waterways
Schools Edison Elementary, Franklin Elementary
Land Use Residential

Project Issues

Reviewing Agencies Resources Agency; Regional Water Quality Control Board, Region 4; Department of Parks and Recreation; Native American Heritage Commission; Integrated Waste Management Board; Department of Fish and Game, Region 5; Department of Water Resources; California Highway Patrol; Caltrans, District 7

Date Received 08/09/2004 ***Start of Review*** 08/09/2004 ***End of Review*** 09/07/2004

Note: Blanks in data fields result from insufficient information provided by lead agency.

S1. Terry Roberts, Director, State Clearinghouse, Governor's Office of Planning and Research. September 10, 2004.

Response S1-1

The comment that the County of Los Angeles Department of Public Works has complied with the State Clearinghouse Public Review requirements for the MND/IS is acknowledged. No further response is required.

Department of Toxic Substances Control

Terry Tamminen
Agency Secretary
Cal/EPA

1011 North Grandview Avenue
Glendale, California 91201

Arnold Schwarzenegger
Governor

September 7, 2004

Mr. Mike Patel
Project Manager
County of Los Angeles Department of Public Works
Project Management Division I
900 South Fremont Avenue
Alhambra, California 91803-1331

NOTICE OF INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION FOR THE LOMA ALTA COUNTY PARK GYMNASIUM AND GENERAL IMPROVEMENT PROJECT

Dear Mr. Patel:

The Department of Toxic Substances Control (DTSC) has received your Notice of Intent to Adopt a Mitigated Negative Declaration (MND) for the project mentioned above.

Based on the review of the document, DTSC comments are as follows:

> If during construction of the project, soil contamination is suspected, construction in the area should stop, and appropriate health and safety procedures should be implemented. If it is determined that contaminated soils exists, the MND should identify how any required investigation and/or remediation will be conducted, and which government agency will provide regulatory oversight. S2-1

DTSC provides guidance for Preliminary Endangerment Assessment preparation and cleanup oversight through the Voluntary Cleanup Program (VCP). For additional information on the VCP please visit DTSC's web site at www.dtsc.ca.gov. If you would like to meet and discuss this matter further, please contact Mr. Alberto Valmidiano, Project Manager, at (818) 551-2870 or me, at (818) 551-2857.

Sincerely,

Michel Iskarous
Acting Unit Chief
Southern California Cleanup Operations Branch – Glendale Office

cc: See next page

cc: Governor's Office of Planning and Research
State Clearinghouse
P. O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P. O. Box 806
Sacramento, California 95812-0806

S2. Michael Iskarous, Acting Unit Chief, Southern California Operations Branch – Glendale Office, California Department of Toxic Substances Control. September 7, 2004.

Response S2-1

As noted on page 33 of the IS/MND, "the site is not identified as a hazardous materials site on the State of California Hazardous Waste and Substances Sites List." No potential impacts were identified in the IS/MND; however to ensure that no impacts result due to implementation of this project, all activities related to construction and operation of the Loma Alta County Park improvements shall be conducted in compliance with applicable federal, state, and County requirements and procedures, including Department of Toxic Substances Control (DTSC) regulations. In addition, the text of the document has been changed to include the following mitigation measure, as suggested by DTSC:

M-VII.4 *If during construction of the project, soil contamination is suspected, construction in the area shall stop, and the County of Los Angeles Department of Public Works shall be contacted to implement and oversee appropriate health and safety procedures and any required investigation and/or remediation in compliance with applicable laws and regulations.*

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

August 24, 2004

Mr. Mike Patel, Project Manager
County of Los Angeles Department of Public Works
Project Management Division I
900 S. Fremont Avenue, Alhambra, CA 91803-1331

RE: SCAG Clearinghouse No. I20040530 Loma Alta County Park Gymnasium and General Improvement Project

Dear Mr. Patel:

Thank you for submitting the **Loma Alta County Park Gynasium and General Improvement Project** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Loma Alta County Park Gynasium and General Improvement Project**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time. L1-1

A description of the proposed Project was published in SCAG's **August 1-15, 2004** Intergovernmental Review Clearinghouse Report for public for review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,

Laverne Jones for

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

L1. Jeffrey M. Smith, AICP, Senior Regional Planner, Intergovernmental Review, Southern California Association of Governments. August 24, 2004.

Response L1-1

The comment that the proposed park/gymnasium does not warrant comment by the Southern California Association of Governments is acknowledged. No response is required.

PM 2 5421

LETTER L2

WATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

JAMES F. STAHL
Chief Engineer and General Manager

August 16, 2004

File No: 17-00.04-00

RECEIVED
AUG 18 2004
PROJECT MANAGEMENT DIVISION I
DEPT. PUBLIC WORKS

Mr. Mike Patel, Project Manager
Project Management Division I
County of Los Angeles Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

Dear Mr. Patel:

Loma Alta County Park Gymnasium and General Improvement Project

The County Sanitation Districts of Los Angeles County (Districts) received a Notice of Intent and Initial Study/Mitigated Negative Declaration for the subject project on August 9, 2004. The proposed development is located within the jurisdictional boundaries of District No. 17. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Lincoln Avenue Trunk Sewer, located in Lincoln Avenue at Palm Street. This 10-inch diameter trunk sewer has a design capacity of 0.89 million gallons per day (mgd) and conveyed a peak flow of 0.28 mgd when last measured in 2002. L2-1

2. The wastewater generated by the proposed project will be treated at the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry, which has a design capacity of 100 mgd and currently processes an average flow of 88.9 mgd, or the Whittier Narrows WRP located near the City of South El Monte, which has a design capacity of 15 mgd and currently processes an average flow of 7.4 mgd. L2-2

3. The expected average wastewater flow from the project site is 2,700 gallons per day. L2-3

4. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is required to construct an incremental expansion of the Sewerage System to accommodate the proposed project, which will mitigate the impact of this project on the present Sewerage System. Payment of a connection fee will be required before a permit to connect to the sewer is issued. A copy of the Connection Fee Information Sheet is enclosed for your convenience. For more specific information regarding the connection fee application procedure and fees, please contact the Connection Fee Counter at extension 2727. L2-4

5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the design capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into the Air Quality Management Plan, which is prepared by the South Coast Air Quality Management District in order to improve air quality in the South Coast Air Basin as mandated by the CAA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise you that the Districts intend to provide this service up to the levels that are legally permitted and to inform you of the currently existing capacity and any proposed expansion of the Districts' facilities. L2-5

If you have any questions, please contact the undersigned at (562) 699-7411, extension 2717.

Very truly yours,

James F. Stahl

Ruth I. Frazen

Ruth I. Frazen
Engineering Technician
Planning & Property Management Section

RIF:rf

Enclosure

388687.1

INFORMATION SHEET FOR APPLICANTS
PROPOSING TO CONNECT OR INCREASE THEIR DISCHARGE TO
THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY SEWERAGE SYSTEM

THE PROGRAM

The County Sanitation Districts of Los Angeles County are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting to a Sanitation District's sewerage system. Your connection to a City or County sewer constitutes a connection to a Sanitation District's sewerage system as these sewers flow into a Sanitation District's system. The County Sanitation Districts of Los Angeles County provide for the conveyance, treatment, and disposal of your wastewater. **PAYMENT OF A CONNECTION FEE TO THE COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY WILL BE REQUIRED BEFORE A CITY OR THE COUNTY WILL ISSUE YOU A PERMIT TO CONNECT TO THE SEWER.**

I. WHO IS REQUIRED TO PAY A CONNECTION FEE?

1. Anyone connecting to the sewerage system for the first time for any structure located on a parcel(s) of land within a County Sanitation District of Los Angeles County.
2. Anyone increasing the quantity of wastewater discharged due to the construction of additional dwelling units on or a change in land usage of a parcel already connected to the sewerage system.
3. Anyone increasing the improvement square footage of a commercial or institutional parcel by more than 25 percent.
4. Anyone increasing the quantity and/or strength of wastewater from an industrial parcel.
5. If you qualify for an Ad Valorem Tax or Demolition Credit, connection fee will be adjusted accordingly.

II. HOW ARE THE CONNECTION FEES USED?

The connection fees are used to provide additional conveyance, treatment, and disposal facilities (capital facilities) which are made necessary by new users connecting to a Sanitation District's sewerage system or by existing users who significantly increase the quantity or strength of their wastewater discharge. The Connection Fee Program insures that all users pay their fair share for any necessary expansion of the system.

III. HOW MUCH IS MY CONNECTION FEE?

Your connection fee can be determined from the Connection Fee Schedule specific to the Sanitation District in which your parcel(s) to be connected is located. A Sanitation District boundary map is attached to each corresponding Sanitation District Connection Fee Schedule. Your City or County sewer permitting office has copies of the Connection Fee Schedule(s) and Sanitation District boundary map(s) for your parcel(s). If you require verification of the Sanitation District in which your parcel is located, please call the Sanitation Districts' information number listed under Item IX below.

IV. WHAT FORMS ARE REQUIRED*?

The Connection Fee application package consists of the following:

1. Information Sheet for Applicants (this form)
2. Application for Sewer Connection

L2. Ruth I. Frazen, Engineering Technician, Planning & Property Management Section, County Sanitation Districts of Los Angeles County. August 16, 2004.

Response L2-1

The text of the IS/MND has been updated to reflect information on sewer capacity and wastewater flows provided by the County Sanitation Districts. The additional information only provides clarification concerning wastewater facilities. It does not add significant new information and more importantly does not change the conclusions reached on page 47 of the Initial Study.

Response L2-2

Please refer to Response L2-1 above. The text of the IS/MND has been updated to reflect information on the treatment provider, existing capacity and average flow rates provided by the Districts.

Response L2-3

Please refer to Response L2-1 above. The text of the IS/MND has been updated to reflect information on expected average wastewater flow, as provided by the Districts.

Response L2-4

As stated on page 47 of the IS/MND, the proposed project is not anticipated to require new or expanded facilities. However, the Los Angeles County Department of Public Works recognizes the importance of fees designed to mitigate incremental impacts to the overall sewerage system. Therefore, the Los Angeles County Department of Public Works will comply with County Sanitation District requirements regarding connection fees for the proposed project.

Response L2-5

This comment is a disclosure from the County Sanitation Districts to inform the proponents of any new development that the Districts are subject to consistency requirements with adopted growth projections. Therefore, the Districts cannot provide service beyond levels anticipated with those growth projections. The project does not exceed projected growth. No response is required.

LETTER L3

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

(323) 890-4330

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

September 21, 2004

Mr. Mike Patel, Project Manager
County of Los Angeles Department of Public Works
Project Management Division 1
900 South Fremont Avenue
Alhambra, CA 91803-1331

Dear Mr. Patel:

NOTICE OF INTENT TO ADOPT A NEGATIVE DECLARATION FOR THE LOMA ALTA COUNTY PARK GYMNASIUM AND GENERAL IMPROVEMENT PROJECT (EIR #2103/2004)

The Intent to Adopt a Negative Declaration for the Loma Alta County Park Gymnasium and General Improvement Project has been reviewed by the Planning Division, Land Development Unit, and Forestry Division of the County of Los Angeles Fire Department. The following are their comments:

LAND DEVELOPMENT UNIT/GENERAL REQUIREMENTS:

The proposed development may necessitate multiple ingress/egress access for the circulation of traffic, and emergency response issues. The Department may condition future development to provide additional means of access. The development of this project must comply with all applicable code and ordinance requirements for construction, access, water mains, fire flows and hydrants.

This property is located within the area described by the Forester and Fire Warden as a Fire Zone 4, Very High Fire Hazard Severity Zone (VHFHSZ). All applicable fire code and ordinance requirements for construction, access, water mains, fire hydrants, fire flows, brush clearance and fuel modification plans, must be met. Specific fire and life safety requirements for the construction phase will be addressed at the building fire plan check. There may be additional fire and life safety requirements during this time.

Every building constructed shall be accessible to Fire Department apparatus by way of access roadways, with an all-weather surface of not less than the prescribed width. The roadway shall be extended to within 150 feet of all portions of the exterior walls when measured by an unobstructed route around the exterior of the building. Fire access roads shall have an unobstructed vertical clearance clear-to-sky with the exception of protected tree species. Protected tree species overhanging fire access roads shall be maintained to provide a vertical clearance of 13 feet, 6 inches.

The maximum allowable grade shall not exceed 15% except where topography makes it impractical to keep within such grade; in such cases, an absolute maximum of 20% will be allowed for up to 150 feet in distance. The average maximum allowed grade including topographical difficulties shall be no more than 17%. Grade breaks shall not exceed 10% in ten (10) feet.

When involved with a subdivision in unincorporated areas within the County of Los Angeles Fire Department, requirements for access, fire flows and hydrants are addressed at the Los Angeles County Subdivision Committee meeting during the subdivision tentative map stage.

Fire sprinkler systems are required in some residential and most commercial occupancies. For those occupancies not requiring fire sprinkler systems, it is strongly suggested that fire sprinkler systems be installed. This will reduce potential fire and life losses. Systems are now technically and economically feasible for residential use.

COMMERCIAL:

The development may require fire flows up to 2,500 gallons per minute at 20 pounds per square inch residual pressure for up to a two-hour duration. Final fire flows will be based on the size of buildings, their relationship to other structures, property lines, and types of construction used. Fire hydrant spacing shall be 300 feet and shall meet the following requirements:

1. No portion of lot frontage shall be more than 200 feet via vehicular access from a public fire hydrant.
2. No portion of a building shall exceed 400 feet via vehicular access from a properly spaced public fire hydrant.
3. Additional hydrants will be required if hydrant spacing exceeds specified distances.

Turning radii shall not be less than 32 feet. This measurement shall be determined at the centerline of the road. A Fire Department approved turning area shall be provided for all driveways exceeding 150 feet in length. All on-site driveways/roadways shall provide a minimum unobstructed width of 28 feet, clear-to-sky. The on-site driveway is to be within 150 feet of all portions of the exterior walls of the first story of any building. The centerline of the access driveway shall be located parallel to, and within 30 feet of an exterior wall on one side of the proposed structure.

1. Any access way less than 34 feet in width shall be labeled "Fire Lane" on the final recording map, and final building plans.
2. The entrance to the street/driveway and intermittent spacing distances of 150 feet shall be posted with Fire Department approved signs stating "NO PARKING – FIRE LANE" in three-inch high letters. Driveway labeling is necessary to ensure access for Fire Department use.

LIMITED ACCESS DEVICES (GATES, ETC.):

All access devices and gates shall meet the following requirements:

1. Any single-gated opening used for ingress and egress shall be a minimum of 26 feet in width, clear-to-sky.
2. Any divided gate opening (when each gate is used for a single direction of travel – i.e., ingress or egress) shall be a minimum width of 20 feet clear-to-sky.
3. Gates and/or control devices shall be positioned a minimum of 50 feet from a public right-of-way, and shall be provided with a turnaround having a minimum of 32 feet of turning radius. If an intercom system is used, the 50 feet shall be measured from the right-of-way to the intercom control device.
4. All limited access devices shall be of a type approved by the Fire Department.
5. Gate plans shall be submitted to the Fire Department prior to installation. These plans shall show all locations, widths and details of the proposed gates.

TRAFFIC CALMING MEASURES:

All proposals for traffic calming measures (speed humps/bumps/cushions, traffic circles, roundabouts, etc.) shall be submitted to the Fire Department for review prior to implementation. Should any questions arise regarding design and construction, and/or water and access, please contact Inspector Marvin Dorsey at (323) 890-4243.

FORESTRY DIVISION/OTHER ENVIRONMENTAL CONCERNS:

The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance.

This property is located within the area described by the Forester and Fire Warden as a Very High Fire Hazard Severity Zone or Fire Zone 4. The development of this project must comply with all Very High Fire Hazard Severity Zone code and ordinance requirements for fuel modification.

As required by Section 1117.2.1 of the County of Los Angeles Fire Code, a fuel modification plan, a landscape plan, and an irrigation plan shall be submitted with any subdivision of land or prior to any new construction, remodeling, modification or reconstruction where such activities increase the square footage of the existing structure by at least 50% within a 12-month period and where said structure or subdivision is located within an area designated as a Very High Fire Hazard Severity Zone or within Fire Zone 4.

A fuel modification plan, a landscape plan, and an irrigation plan shall be developed and approved prior to construction. Said plans shall be reviewed and approved by the County of Los Angeles Fire Department, Forestry Division. Specific questions regarding fuel modification requirements should be directed to the Fuel Modification Office at (626) 969-5205.

The Negative Declaration acknowledges that one Oak tree, of ordinance size, requires removal and the applicant will obtain an Oak Tree Permit through the Department of Regional Planning.

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

David R. Leininger

DAVID R. LEININGER, CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

DRL:sc

L3. David R. Leininger, Chief, Forestry Division, Prevention Bureau, County of Los Angeles Fire Department. September 21, 2004.

Response L3-1

The County of Los Angeles Fire Department has provided detail on Fire Code regulations and requirements for both land development and commercial development. The County is required to design public facilities to its Fire Code standards. Therefore, all applicable design and infrastructure requirements have, or are in the process of being, incorporated into the final design of the project and the plans will be submitted to the County Fire Department for approval prior to construction. As stated on page 40 of the Initial Study/MND, "Implementation of the project would be in accordance with the latest Los Angeles County Fire Department codes and guidelines for construction, access, water mains, fire flows and hydrants."

No revisions to the Initial Study/MND are required for compliance with standard fire, design and safety codes.

Response L3-2

Limited access devices, such as gates, are not included as part of this project.

Response L3-3

Traffic calming measures, such as speed bumps, are not included as part of this project.

Response L3-4

As stated on page 27 of the IS/MND, "as required by the County Regional Planning Department to comply with the Oak Tree Ordinance, the one oak tree will be replaced at a ratio of 2 to 1 with minimum 36-inch box size trees at a location within the park mutually agreed to by Parks and Recreation staff and the County Forester."

The comment that the project site is located within the area described by the Forester and Fire Warden as a very high fire hazard severity zone or "fire zone 4" is acknowledged. If required under the Fire Code regulations, the project plans, including fuel modification, landscape and irrigation plans, shall be submitted to the County Fire Department, Forestry Division for approval prior to construction.

LETTER I1

Patel, Mike

From: roverzone@mac.com
Sent: Tuesday, August 31, 2004 1:41 PM
To: Patel, Mike
Subject: Fwd: Loma Alta Park

Begin forwarded message:

From: roverzone@mac.com
Date: August 31, 2004 1:38:39 PM PDT
To: mpatel@lapdp.org
Cc: Cal Smith <denverbuilt@aol.com>
Subject: Re: Loma Alta Park

Hi, I'm a local resident that just looked at the plan to build the new gym. It seems that the effort is simply to provide an indoor basketball court? Is there a demand for this? It seems like a strange way to spend money when weather allows basketball to be played outdoors most of the time. **I1-1**

And why demolish the old rec building if nothing is being built in its place? The plan doesn't say that anything will be put there, such as parking or landscaping, so it sounds like it will be a dirt lot with weeds. Why not leave or refurbish the old building? **I1-2**

Thanks
Daniel Singer
Cal Smith
3572 Canyon Ridge Drive
Altadena, CA 91001

I1. Daniel Singer. Email dated August 31, 2004 at 1:38 PM.

Response I1-1

As stated on page 1 of the IS/MND, "the primary objective of the project, as identified by the Los Angeles County Department of Parks and Recreation, is to improve park facilities and increase recreational opportunities at the existing Loma Alta County Park."

The project includes several components in addition to the indoor basketball court (see pages 7 and 8 of the IS/MND for the complete project description). The proposed 13,500 square-foot gymnasium and community center facility will include 8,000 square feet of court space that will be utilized for basketball, volleyball, badminton, and other indoor recreational sport activities. In addition to the athletic facilities, the new building will include community space, including a 700 square-foot classroom and 1,300 square foot community room to replace the existing recreation building that will be demolished as part of the project. Also, the project includes a variety of site improvements, including landscaping, irrigation, and security lighting improvements, and renovation and expansion of the parking lot areas.

Response I1-2

Several options were considered during the design phase of the project, including retaining and renovating the existing recreation building. However, it was determined that the existing recreation building would require significant upgrades to operate in compliance with current building codes. Furthermore, due to budget constraints, the Department of Parks and Recreation would not have the staff available to maintain and operate the existing recreation building separately from the new gymnasium facility. Therefore, it was determined to be more cost effective to demolish the existing recreation building and construct and operate a new combined gymnasium and community center facility.

The area currently occupied by the recreation building will be available for an outdoor basketball court or picnic area as part of a future project. In the meantime, the area will be cleared and landscaped with turf and irrigation as part of the proposed project.

LETTER I2

Patel, Mike
From: roverzone@mac.com
Sent: Tuesday, August 31, 2004 1:44 PM
To: Patel, Mike
Subject: Re: Parking on Lincoln

We're perplexed by the NO PARKING signs on the East side of North Lincoln above Loma Alta Park. There doesn't seem to be a reason why people can't park there. Can you explain? I2-1

Thanks
Daniel Singer
Cal Smith
3572 Canyon Ridge Drive
Altadena, CA 91001

I2. Daniel Singer. Email dated August 31, 2004 at 1:44 PM.

Response I2-1

In December 1975, the County adopted a regulation prohibiting parking along the east side of Lincoln Avenue from approximately the north end of the Loma Alta Park to north of Canyon Crest Road in response to a petition from the adjacent property owners to facilitate movement of traffic due to a restricted road width at the time. However, Lincoln Avenue in the subject area has been improved and widened as part of the La Vina Tract Development since that time. Based on the existing road width and centerline striping along Lincoln Avenue, the parking restriction may no longer be required, and the County would be willing to consider rescinding the no parking regulation if the community requested.

SECTION 8.0

MITIGATION MONITORING AND REPORTING PROGRAM

8.1 Authority and Purpose

This Environmental Mitigation Monitoring and Reporting Program has been prepared pursuant to Section 21081.6 of the California Environmental Quality Act, known as CEQA (Public Resources Code Section 21000 et seq. and CEQA Guidelines Sections 15091(d) and 15097), to provide for the monitoring of mitigation measures required for the Loma Alta County Park Gymnasium and General Improvement Project, as set forth in the Mitigated Negative Declaration (MND) prepared for the project. This report will be kept on file in the office of the Los Angeles County Department of Public Works, 900 South Fremont Avenue, Alhambra, CA 91803-1331.

8.2 Roles and Responsibilities

As the Lead Agency under CEQA for the project, the County of Los Angeles Department of Public Works will enforce and monitor compliance with the provisions of this program. The Department of Public Works will be required to comply with all applicable plans, permits, and conditions of approval. The Department of Public Works will ensure that contractor bid packages include the mitigation measures required to complete construction of the proposed project.

8.3 Changes to Mitigation Measures

Any substantive change in the monitoring and reporting program made by staff shall be reported in writing to the Director of Public Works, and referenced in the Environmental Mitigation Monitoring Report. Modifications to the mitigation measures may be made by the County of Los Angles Department of Public Works subject to one of the following findings, documented by evidence included in the record:

a. The mitigation measure included in the MND and the Mitigation Monitoring and Reporting Program is no longer required because the significant environmental impact identified in the MND has been found not to exist, or to occur at a level which makes the impact less than significant as a result of changes in the project, changes in conditions of the environment, or other factors.

   OR

b. The modified or substitute mitigation measure to be included in the Mitigation Monitoring and Reporting Program provide a level of environmental protection equal to or greater than those afforded by the mitigation measures included in the MND and the Mitigation Monitoring and Reporting Program; and

   The modified or substitute mitigation measures do no have significant adverse effects on the environment in addition to or greater than those which were considered by the County of Los Angeles in its decisions on the MND and the proposed project; and

   The modified or substitute mitigation measures are feasible, and the County, through measures included in the Mitigation Monitoring and Reporting Program or other procedures, can endure their implementation.

8.4 Support Documentation

Findings and related documentation supporting the findings involving modifications to mitigation measures will be maintained in the project file with the Mitigation Monitoring and Reporting Program and will be made available to the public upon request.

8.5 Mitigation Monitoring Matrix

The following matrix (Table 11), identifies the environmental issue areas for which monitoring is required, the required mitigation measures, the time frame for monitoring, and the responsible implementing agencies.

Table 11 Mitigation Monitoring Matrix				
Impact		**Mitigation Measures**	**Time Frame/ Monitoring Milestone**	**Responsible Implementing Agency**
BIOLOGICAL RESOURCES				
Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special –status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.	**M-IV.1**	A qualified biologist shall be retained to conduct pre-construction surveys for raptors and other nesting birds protected by the MBTA within 30 days prior to any ground-disturbing activities if proposed during the nesting season. The results of the surveys shall be forwarded to the United States Fish and Wildlife Service and the Department of Fish and Fame (as appropriate), and mandated avoidance procedures required by the agencies and monitoring biologist shall be adopted.	Pre-construction	Los Angeles County Department of Public Works
CULTURAL RESOURCES				
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. Disturb any human remains, including those interred outside of formal cemeteries.	**M-V.1**	In the event that subsurface cultural resources are encountered during excavation, the findings shall be examined by a qualified archaeologist/ paleontologist, who shall examine the findings, assess their significance, and offer recommendations for any further investigation or mitigation measure. Work could continue on other parts of the project while unique archaeological/ paleontological resource mitigation (if necessary) takes place.	Construction	Los Angeles County Department of Public Works
GEOLOGY AND SOILS				
Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Strong seismic ground shaking. Result in substantial soil erosion or the loss of topsoil.	**M-VI.1**	The proposed gymnasium and community center facility shall be constructed in accordance with all Title 24 requirements of the State Building Code and within the recommended construction area identified in the 1999 fault trenching study. The project construction documents shall be submitted to the Los Angeles County Department of Public Works, Building and Safety Division, for review and approval during the project design phase.	Pre-construction	Los Angeles County Department of Public Works

Table 11 Mitigation Monitoring Matrix (cont.)				
Impact	**Mitigation Measures**		**Time Frame/ Monitoring Milestone**	**Responsible Implementing Agency**
Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property.	**M-V1.2**	Existing fill materials and upper native soils within the proposed gymnasium and community center facility area shall be removed and recompacted as controlled fill prior to foundation excavation and prior to the placement of any additional compacted fill.	Construction	Los Angeles County Department of Public Works
	M-V1.3	Excavation shall extend a minimum of five feet beyond the edge of foundations, or for a distance equal to the depth of fill below the foundations, whichever is greater.	Construction	Los Angeles County Department of Public Works
HAZARDS AND HAZARDOUS MATERIALS				
Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	**M-VII.1**	Prior to demolition work which would disturb identified ACMs, a licensed asbestos abatement removal contractor shall remove the ACMs.	Construction	Los Angeles County Department of Public Works
	M-VII.2	Prior to demolition work which would disturb identified LBPs, a licensed lead abatement removal contractor shall remove the LBPs.	Construction	Los Angeles County Department of Public Works
	M-VII.3	Prior to construction, notification as specified in applicable laws and regulations shall be given to building occupants, renovation contractors, and workers of the presence of asbestos and LBP.	Pre-construction/ Construction	Los Angeles County Department of Public Works
	M-VII.4	If during construction of the project, soil contamination is suspected, construction in the area shall stop, and the County of Los Angeles Department of Public Works shall be contacted to implement and oversee appropriate health and safety procedures and any required investigation and/or remediation in compliance with applicable laws and regulations.	Construction	Los Angeles County Department of Public Works
NOISE				
Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	**M-XI.1**	Project construction shall comply with the County of Los Angeles Noise Ordinance. Construction activities shall be limited to the hours of 7:00 a.m. to 8:00 p.m. on Mondays – Saturdays, excluding holidays, unless otherwise approved by Los Angeles County.	Construction	Los Angeles County Department of Public Works

Table 11 Mitigation Monitoring Matrix (cont.)				
Impact	**Mitigation Measures**		**Time Frame/ Monitoring Milestone**	**Responsible Implementing Agency**
Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.	**M-XI.2**	All construction equipment, stationary and mobile, shall be equipped with properly operating and maintained muffling devices.	Construction	Los Angeles County Department of Public Works
A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.	**M-XI.3**	During construction, mufflers and noise attenuating devices shall be employed to reduce noise generated during construction to acceptable levels meeting the County Construction Noise Ordinance.	Construction	Los Angeles County Department of Public Works
A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.	**M-XI.4**	Loading and staging areas onsite shall be located at least 50 feet away from existing residential areas.	Construction	Los Angeles County Department of Public Works
PUBLIC SERVICES				
Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any parks.	**M-XIII.1**	If the gymnasium and community center facility is not ready for occupancy prior to demolition of the recreation building, the recreation programs shall be relocated to the closest County facilities to the greatest extent feasible.	Construction	Los Angeles County Department of Public Works
	M-XIII.2	The equestrian trail that extends along the eastern boundary of the northern portion of the park shall be relocated off-site prior to construction of the proposed park improvements.	Pre-construction	Los Angeles County Department of Parks and Recreation
UTILITIES AND SERVICE SYSTEMS				
Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.	**M-XVI.1**	During construction, inert materials, including vegetative matter, asphalt, concrete, and other recyclable materials, shall be recycled to the greatest extent feasible.	Construction	Los Angeles County Department of Public Works
Comply with federal, state, and local statutes and regulations related to solid waste.	**M-XVI.2**	The County shall implement a recycling program at the new facility to minimize the amount of solid waste generated by the project site to be disposed of in County landfills.	Construction/ Operation	Los Angeles County Department of Public Works
	M-XVI.3	Space shall be allocated either within the building or in outdoor areas for collection and storage of recyclable materials.	Operation	Los Angeles County Department of Parks and Recreation

Appendix A

Air Emissions Worksheets

ESTIMATED EMISSIONS FROM DEMOLITION, GRADING, AND SITE PREPARATION

Construction Imports Inputs

Total days Allowed for Project	44.00
Total Days Allowed for Construction (Days)	44.00
Total Site Acres (Acres)	3.00
Estimated Cubic Yards for Demolition	120000.00
Number of Employees	20
Average Trip Length One Way POV (Miles)	30
Total Work Hours Per Day (Hours/Day)	8
Daily Number of Haul Trucks	10
Average Trip Length One Way Haul Trucks (Miles)	20
Total VMT Water Trucks per day (Miles)	5
Total VMT Dump Trucks per day (Miles)	5

Total Number of Each Equipment used for Construction

	scraper diesel	rollers diesel	compactor diesel	excavator diesel	welder diesel	backhoe diesel
# of equipment	1	1	1	1	0	1
Hours per Day	8	8	8	8	0	8
Days in Operation	22	44	5	22	0	44
Miles Per Hour	2					

	loaders diesel	crawler dozer diesel	mortor mix diesel	grader diesel	paver diesel	trencher diesel
# of equipment	1	0	0	0	0	0
Hours per Day	8	0	0	0	0	0
Days in Operation	44	0	0	0	0	0
Miles Per Hour	1					

Assumptions Used in EMFAC2002

% LDA	66.00%	Daily VMT LDA & LDT	1210.000
%LDT	34.00%	Daily VMT Haul Truck	400
Season	summer		

EMFAC2002 Inputs

	LDA Grams/Mile	LDT Grams/Mile	HDD Grams/Mile
Carbon Monoxide (CO)	3.02	3.6	2.9
Reactive Organic Compounds (ROC)	0.19	0.2	0.65
Nitrogen Oxides (NOx)	0.25	0.3	15.97
Particulates (PM10)	0.01	0.01	0.26

Source: EMFAC2002

Vehicle Exhaust Emissions from POV, Construction

Construction Workers POV Emissions	EMFAC Emissions Factor. Grams/Mile	Est. Emissions lbs/day
Carbon Monoxide (CO)	3.2172	8.57
Reactive Organic Compounds (ROC)	0.1934	0.52
Nitrogen Oxides (NOx)	0.267	0.71
Particulates (PM10)	0.01	0.03

Source: Emission Factors From EMFAC2002

Haul Truck Emissions	EMFAC Emissions Factor. Grams/Mile	Est. Emissions lbs/day
Carbon Monoxide (CO)	2.9	2.56
Reactive Organic Compounds (ROC)	0.65	0.57
Nitrogen Oxides (NOx)	15.97	14.07
Sulfur Oxides (SOx)	NA	0
Particulates (PM10)	0.26	0.23

Source: EMFAC2002

Construction Equipment Emissions

	scraper 500 hp diesel lbs/hour	roller 175 hp diesel lbs/hour	compactor 50 hp diesel lbs/hour	excavator 250 hp diesel lbs/hour	welder 50 hp diesel lbs/hour	backhoe 120 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.62	0.23	0.05	0.33	0.55	0.11	6.6
Reactive Organic Compounds (ROC)	0.24	0.12	0.03	0.12	0.1	0.06	2.9
Nitrogen Oxides (NOx)	4.82	2.08	0.49	2.12	0.9	1.01	52.9
Particulates (PM10)	0.10	0.05	0.01	0.05	0.05	0.02	1.2

	loaders 175 hp diesel lbs/hour	crawler dozer 250 hp diesel lbs/hour	mortor mixer 50 hp diesel lbs/hour	grader 175 hp diesel lbs/hour	paver 175 hp diesel lbs/hour	crane 175 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.23	0.31	0.5	0.24	0.24	0.22	1.8
Reactive Organic Compounds (ROC)	0.12	0.16	0.1	0.12	0.13	0.11	1.0
Nitrogen Oxides (NOx)	2.07	2.79	1.2	2.18	2.22	2.01	16.6
Particulates (PM10)	0.05	0.07	0.05	0.05	0.05	0.05	0.4

Source: ARB Emission Inventory Publication Number MO99_32.3 Table 13 released: 2000

Source: ARB Inventory Publication MO99_32.5 App. B released: 2000

Total PM10 Fugitive Dust Emissions from construction						
Air Pollutant	Emission Factor		Unmitigated Emissions		Mitigation Efficiency	Est. Emissions (lbs/day)
Particulates (PM10) Loaders*	0.000035	lb/ton	0.09996	lb/day	50%	0.0
Particulates (PM10) Excavator**	0.000035	lb/ton	0.54978	lb/day	50%	0
Particulates (PM10) Scraper***	4.3	lb/vmt	68.8	lb/day	50%	34.4
Particulates (PM10) Backhoe****	0.000035	lb/ton	0.04816	lb/day	50%	0.0
Particulates (PM10) Trencher*****	0.000035	lb/ton	0	lb/day	50%	0.0
Particulates (PM10) demolition******	0.00042	lb/ft^3	1.145454545	lb/day	50%	0.6
Particulates (PM10) POV & Haul Truck	0.42	gm/mile				1.49
				Total Particulates		37

* Aggragate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 280 cubic yards per hour per loader, 1 cubic yard = 2550 pounds.

* Aggragate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 280 cubic yards per hour per excavator, 1 cubic yard = 2550 pounds.

*** Cut and Fill Operations with 15 Cubic Meter Pan Scraper Equation SCAQMD CEQA Air Quality Handbook, Table A9-9

**** Aggragate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 135 cubic yards per hour per backhoe, 1 cubic yard = 2550 pounds.

***** Aggragate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 135 cubic yards per hour per Trencher, 1 cubic yard = 2550 pounds.

****** Demolition emissions factor, Table A9-9 SCAQMD CEQA Air Quality Handbook, 1993.

Source: Table 11.9-1 EPA AP-42

*Source: ARB Recommended

Total Air Emissions from Construction Including POV, Fugitive Dust, and

Air Pollutant	Est. Emissions (lbs/day)	SCAQMD Thresholds (lbs/day)	Significant?
Carbon Monoxide (CO)	19.53	550.00	NO
Reactive Organic Compounds (ROC)	4.96	75.00	NO
Nitrogen Oxides (NOx)	84.27	100.00	NO
Particulates (PM10)	38.64	150.00	NO

Source: EMFAC2002 and SCAQMD CEQA Air Quality Handbook

ESTIMATED EMISSIONS FROM BUILDING CONSTRUCTION

Construction Imports Inputs

Total days Allowed for Project	220.00
Total Days Allowed for Construction (Days)	220.00
Total Site Acres (Acres)	3.00
Number of Employees	40
Average Trip Length One Way POV (Miles)	30
Total Work Hours Per Day (Hours/Day)	8
Daily Number of Haul Trucks	4
Average Trip Length One Way Haul Trucks (Miles)	20
Total VMT Water Trucks per day (Miles)	5
Total VMT Dump Trucks per day (Miles)	0

Total Number of Each Equipment used for Construction

	scraper diesel	forklift diesel	compressor diesel	boom truck diesel	welder diesel	backhoe diesel
# of equipment	0	2	1	0	1	0
Hours per Day	0	6	8	0	8	0
Days in Operation	0	220	220	0	220	0
Miles Per Hour	0	1	1	0	1	0

	loaders diesel	crawler dozer diesel	mortor mix diesel	roller diesel	paver diesel	trencher diesel
# of equipment	0	0	1	1	1	0
Hours per Day	0	0	8	8	8	0
Days in Operation	0	0	220	220	220	0
Miles Per Hour	0	0	1	1	1	0

Assumptions Used in EMFAC2002

% LDA	66.00%
%LDT	34.00%
Season	summer
Daily VMT LDA & LDT	2405.000
Daily VMT Haul Truck	160

EMFAC2002 Inputs

	LDA Grams/Mile	LDT Grams/Mile	HDD Grams/Mile
Carbon Monoxide (CO)	3.02	3.6	2.9
Reactive Organic Compounds (ROC)	0.19	0.2	0.65
Nitrogen Oxides (NOx)	0.25	0.3	15.97
Particulates (PM10)	0.01	0.01	0.26

Source: EMFAC2002

Vehicle Exhaust Emissions from POV, Construction

Construction Workers POV Emissions	EMFAC Emissions Factor. Grams/Mile	Est. Emissions lbs/day
Carbon Monoxide (CO)	3.2172	17.04
Reactive Organic Compounds (ROC)	0.1934	1.02
Nitrogen Oxides (NOx)	0.267	1.41
Particulates (PM10)	0.01	0.05

Source: Emission Factors From EMFAC2002

Haul Truck Emissions	EMFAC Emissions Factor. Grams/Mile	Est. Emissions lbs/day
Carbon Monoxide (CO)	2.9	1.02
Reactive Organic Compounds (ROC)	0.65	0.23
Nitrogen Oxides (NOx)	15.97	5.63
Sulfur Oxides (SOx)	NA	0
Particulates (PM10)	0.26	0.09

Source: EMFAC2002

Construction Equipment Emissions

	scraper 500 hp diesel lbs/hour	forklift 175 hp diesel lbs/hour	compressor 50 hp diesel lbs/hour	boom truck 175 hp diesel lbs/hour	welder 50 hp diesel lbs/hour	backhoe 120 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.62	0.24	0.55	0.2	0.55	0.11	11.7
Reactive Organic Compounds (ROC)	0.24	0.13	0.1	0.11	0.1	0.06	3.2
Nitrogen Oxides (NOx)	4.82	2.24	0.9	1.85	0.9	1.01	41.3
Particulates (PM10)	0.10	0.05	0.05	0.05	0.05	0.02	1.4

	loaders 175 hp diesel lbs/hour	crawler dozer 250 hp diesel lbs/hour	mortor mixer 50 hp diesel lbs/hour	roller 120 hp diesel lbs/hour	paver 175 hp diesel lbs/hour	crane 175 hp diesel lbs/hour	Total Emissions lbs/day
Carbon Monoxide (CO)	0.23	0.31	0.5	0.12	0.24	0.22	6.0
Reactive Organic Compounds (ROC)	0.12	0.16	0.1	0.06	0.13	0.11	2.3
Nitrogen Oxides (NOx)	2.07	2.79	1.2	1.13	2.22	2.01	36.4
Particulates (PM10)	0.05	0.07	0.05	0.03	0.05	0.05	1.0

Source: ARB Emission Inventory Publication Number MO99_32.3 Table 13 released: 2000

Source: ARB Inventory Publication MO99_32.5 App. B released: 2000

Total PM10 Fugitive Dust Emissions from construction					
Air Pollutant	Emission Factor		Unmitigated Emissions	Mitigation Efficiency	Est. Emissions (lbs/day)
Particulates (PM10) Loaders*	0.000035	lb/ton	0 lb/day	50%	0.0
Particulates (PM10) Bulldozer**	2.4	lb/hr	0 lb/day	50%	0
Particulates (PM10) Scraper***	4.3	lb/vmt	0 lb/day	50%	0
Particulates (PM10) Backhoe****	0.000035	lb/ton	0 lb/day	50%	0.0
Particulates (PM10) Trencher*****	0.000035	lb/ton	0 lb/day	50%	0.0
Particulates (PM10) POV & Haul Truck	0.42	gm/mile			2.37
				Total Particulates	2

* Aggregate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 280 cubic yards per hour per loader, 1 cubic yard = 2550 pounds.

** Bulldozing Overburden Equation Table 11.9-1 AP-42 Assume 15% silt content, 7.9 % soil moisture content

*** Cut and Fill Operations with 15 Cubic Meter Pan Scraper Equation SCAQMD CEQA Air Quality Handbook, Table A9-9

**** Aggregate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 135 cubic yards per hour per backhoe, 1 cubic yard = 2550 pounds.

***** Aggregate Batch Drop Equation AP-42, 13.2.4-3 (1) Assume mean wind speed = 1.6475 mph, 7.9% soil moisture content & 135 cubic yards per hour per Trencher, 1 cubic yard = 2550 pounds.

Source: Table 11.9-1 EPA AP-42

*Source: ARB Recommended

Volatile Organic Compounds from Architectural Coatings		
Square Footage per day	Coating Equivalent	Equivalent Square Footage
2000 ft^2/day	2	4000 ft^2/day
Paint Coating Factor	Paint VOC Content	
400 ft^2/day	2.08 lb/gal	
	Total Commercial VOC from Architectural Coatings	
	20.8 lb/day VOC	

Source: SCAQMD Recommended

Reactive Organic Compounds From Street Paving		
Asphalt ROC Emission Factor*	2.62	lb/acre
Total Acres Being Paved	1.5	acres/day
Total ROC from Paving	3.93	lb/day ROC

*Source: Urbemis 2002 Asphalt Emission Factor

Total Air Emissions from Construction Including POV, Fugitive Dust, and			
Air Pollutant	Est. Emissions (lbs/day)	SCAQMD Thresholds (lbs/day)	Significant?
Carbon Monoxide (CO)	35.78	550.00	NO
Reactive Organic Compounds (ROC)	31.46	75.00	NO
Nitrogen Oxides (NOx)	84.72	100.00	NO
Particulates (PM10)	4.96	150.00	NO

Source: EMFAC2002 and SCAQMD CEQA Air Quality Handbook

Appendix B

Biological Reconnaissance Survey Summary Memorandum

ESA Environmental Science Associates

MEMORANDUM

TO • File

FROM • Chris Mundhenk

DATE • February 26, 2004

SUBJECT • Biological Reconnaissance Survey for the proposed Loma Alta County Park Gymnasium and General Improvement Project

---

This memo documents the results of a biological reconnaissance survey conducted at the Loma Alta County Park, between Sunset Ridge Road and Lincoln Avenue in Altadena. The Los Angeles County Department of Public Works proposes:

- the design, construction, and operation of a new gymnasium facility;
- the improvement of existing parking facilities located on-site;
- the demolition of the community center; and,
- the construction of installation of various other improvements on-site.

On August 31, 2003, an ESA biologist conducted a field reconnaissance survey of the site. The objectives of the survey included (1) identifying rare, threatened, and endangered species likely to occur on the project site based on the existing habitat type and quality and (2) determining the appropriate environmental analysis and resource-type permits for the proposed project, and (3) identifying water-associated features[1] potentially subject to the jurisdictions of the U.S. Army Corps of Engineers, RWQCB, and/or the CDFG.

1.0 Existing Conditions

The project site is located at the Loma Alta County Park, between Sunset Ridge Road and Lincoln Avenue in Altadena. The entire landscape is disturbed with large areas of low-lying non-native grasses. Throughout the site, several trees, such as California washingtonia (*Washingtonia filifera*), pine (*Pinus ssp.*), redwood (*Sequoia sempervirens*), fig (*Ficus ssp.*), and eucalyptus (*Eucalyptus globules*), exist. It is assumed that these trees were planted for aesthetic purposes to shield the surrounding community from activities at the existing structures at the park and for other aesthetic purposes.

The project site is not located in the jurisdiction of a Natural Communities Conservation Plan (NCCP). Also, the project site is not located in or adjacent to any existing or proposed Significant Ecological Areas (SEA).[2]

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[1] Identification of water-associated features was based on the presence of hydrological indicators and vegetation. A formal wetland delineation was not performed.

[2] Los Angeles County Department of Regional Planning. *SEA Update Study 2000*, November 2000

1.1 Vegetation

Vegetation on the project site consists of primarily non-native species of grasses and trees. Species observed on the project site included California washingtonia, redwood, pine, fig, and eucalyptus.

1.2 Wildlife

Due to the non-native status of most species and the relative level of disturbance at the site, the wildlife species existing on-site were not observed as being typical of one type of vegetation.

Several species of wildlife were observed on-site, including mourning dove (*Zenaida macroura*), black phoebe (*Sayornis nigricans*), common crow (*Corvus brachyrhynchos*), and Anna's hummingbird (*Calypte anna*). Mammals present on the project site at the time of the study included only ground squirrels (*Otospermophilus beecheyi*).

2.0 Special Status Plants and Animals

Based on general knowledge of the biota of the area and an electronic database review of the Pasadena quadrangle in the California Natural Diversity Database (CDFG 2000), sensitive species that have historically been sighted in the general area of the project site are listed in Attachment 1 of this memorandum. However, based on the disturbed condition of the site and the relative lack of suitable habitat, the potential for any known sensitive species to occur on-site is considered low.

3.0 Waters of the United States

Wetlands are ecologically productive habitats that support a rich variety of both plant and animal life. The importance and sensitivity of wetlands have increased as a result of their value as recharge areas and filters for water supplies and widespread filling and destruction to enable urban and agricultural development. Wetlands and non-wetland water resources, e.g., rivers, streams and natural ponds, are a subset of "waters of the United States" and receive protection under Section 404 of the Clean Water Act (CWA).

Under Sections 1600-1607 of the California Fish and Game Code, CDFG regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFG jurisdiction are defined in the California Fish and Game Code as, "bed, channel, or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit..."[Section 1601 of California Fish & Game Code].

No evidence of an intermittent stream at the site was found at the time of the survey.

4.0 Natural Resource Analysis and Permitting Needs

4.1 CEQA Compliance

The proposed project would likely not result in significant impacts to biological resources. This assumes that construction activities would begin outside the breeding season.

If construction were to begin during the breeding seasons, a pre-construction survey would be needed to establish that nesting/breeding birds will not be "harassed" by project activities.

4.2 References

California Department of Fish and Game (CDFG). January 5, 2004. California Natural Diversity Database for 7.5-minute topographic Pasadena quadrangle. Accessed January 22, 2004.

Location LOMA ALTA CP Date 8/31/03

Project / Client COUNTY OF LA

TEMP ~ 75°F
MOSTLY CLEAR
LIGHT (<5mph) WIND

CALIFORNIA FAN PALM ALONG EXTERIOR OF SITE.
EUCALYPTUS, PINE, OAK, FIG LOCATED THROUGHOUT SITE

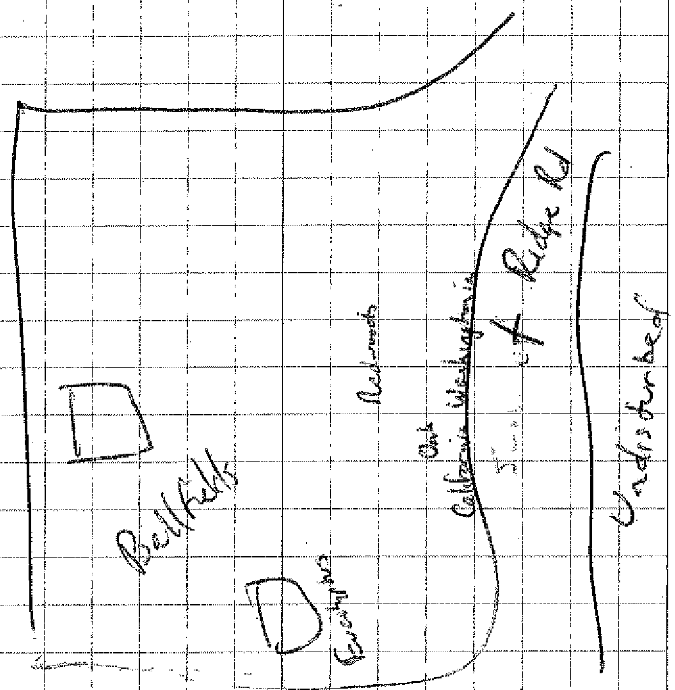
PRESENCE OF 2 BALLFIELDS CREATES LARGE OPEN AREA W/ LITTLE VEGETATION EXCEPT NON-NATIVE GRASSES

UNDISTURBED AREA TO ~~WEST~~ EAST - WOULD NOT BE IMPACTED BY PROPOSED PROJECT.

Common crow
Black phoebe
Anna's hummingbird
Mourning dove

Location ______ Date ______

Project / Client ______



Attachment 1

Athene cunicularia

burrowing owl

Element Code: ABNSB10010

Status
Federal: Species of Concern
State: None

NDDB Element Ranks
Global: G4
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: (BURROW SITES) OPEN, DRY ANNUAL OR PERENIAL GRASSLANDS, DESERTS & SCRUBLANDS CHARACTERIZED BY LOW-GROWING VEGETATION.
Micro: SUBTERRANEAN NESTER, DEPENDENT UPON BURROWING MAMMALS, MOST NOTABLY, THE CALIFORNIA GROUND SQUIRREL.

Occurrence No. 571 **Map Index:** 51258 **EO Index:** 51258
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MVZ 2003 (MUS)

Dates Last Seen
Element: 1921-05-05
Site: 1921-05-05

Record Last Updated: 2003-05-09

Quad Summary: SOUTH GATE (3311882/089B), INGLEWOOD (3311883/090A), LOS ANGELES (3411812/110C), HOLLYWOOD (3411813/111D), PASADENA (3411822/110B), BURBANK (3411823/111A)

County Summary: LOS ANGELES

Lat/Long: 34.05366° / -118.24549°
UTM: Zone-11 N3768805 E385050
Radius: 5 mile
Elevation:

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01S
Range: 13W
Section: 26 **Qtr:** XX
Meridian: S

Location: HERMON HILLS, LOS ANGELES.

Location Detail: UNABLE TO FIND ANY REFERENCE TO "HERMON HILLS". NO OTHER LOCATION INFORMATION GIVEN. MAPPED AS A 5 MILE RADIUS CIRCLE AT THE LAT/ LONG COORDINATES GIVEN IN MVZ RECORDS (MAX ERROR DISTANCE GIVEN AS 40 MILES).

General: MVZ EGG SET #3843 COLLECTED 28 APR 1919 BY ALDEN H. MILLER. MVZ EGG SET #3844 COLLECTED 5 MAY 1921 BY ALDEN H. MILLER

Owner/Manager: UNKNOWN

Berberis nevinii

Nevin's barberry

Element Code: PDBER060A0

Status — Federal: Endangered; State: Endangered

NDDB Element Ranks — Global: G2; State: S2.2

Other Lists — CNPS List: 1B; R-E-D Code: 3-3-3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, RIPARIAN SCRUB.

Micro: ON STEEP, N-FACING SLOPES OR IN LOW GRADE SANDY WASHES. 290-1575M.

Occurrence No. 8 **Map Index:** 02141 **EO Index:** 21581

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: HUOT J. #12 UCSB (HERB)

Dates Last Seen — **Element:** XXXX-XX-XX **Site:** 1961-03-25
Record Last Updated: 1995-11-30

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.13306° / -118.16619°
UTM: Zone-11 N3777523 E392470
Radius: 1/5 mile
Elevation: 1,000 ft
Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT
Township: 01N **Range:** 12W **Section:** XX **Qtr:** XX **Meridian:** S

Location: ARROYO SECO, SOUTH PASADENA; 1 MILE NORTH OF PASADENA FREEWAY.

Owner/Manager: UNKNOWN

Occurrence No. 9 **Map Index:** 02129 **EO Index:** 21583

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: HOWELL, J. SN CAS (HERB)

Dates Last Seen — **Element:** 1927-03-22 **Site:** XXXX-XX-XX
Record Last Updated: 2002-02-15

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.18558° / -118.17549°
UTM: Zone-11 N3783357 E391679
Radius: 3/5 mile
Elevation: 1,000 ft
Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT
Township: 01N **Range:** 12W **Section:** 07 **Qtr:** XX **Meridian:** S

Location: DEVILS GATE IN ARROYO SECO, PASADENA.

General: SP SEEN 1927. 1920 COLLECTION BY PEIRSON FROM "HALFWAY BETWEEN DEVILS GATE AND THE MOUNTAINS, ARROYO SECO" ATTRIBUTED TO THIS SITE. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Occurrence No. 13 **Map Index:** 02139 **EO Index:** 21578

Occ Rank: Fair
Origin: Transplant Outside of Native Hab./Range
Presence: Presumed Extant
Trend: Unknown
Main Source: LONG, M. 1979 (PERS)

Dates Last Seen — **Element:** 1999-07-29 **Site:** 1999-07-29
Record Last Updated: 1993-07-27

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.17055° / -118.16702°
UTM: Zone-11 N3781682 E392441
Radius: 1/5 mile
Elevation: 960 ft
Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT
Township: 01N **Range:** 12W **Section:** XX **Qtr:** XX **Meridian:** S

Location: EAST BANK OF ARROYO SECO, HALF MI N OF ROSE BOWL, CORNER OF ARROYO AND WASHINGTON STS.

Location Detail: ADJ TO ROAD, OCC IN NATURAL AREA ADJ TO GOLF COURSE AND HOUSING.

Ecological: WITH TOYON AND OAKS.

Threat: SOME PLANTS BEING OVERGROWN BY ASSOCIATED SPECIES.

General: 5 SHRUB IN 1976, 4 IN 1987. ELNA BAKKER SAYS THEODORE PAYNE SAID HE PLANTED M. NEVINII HERE. 5 PLANTS COUNTED LATER IN 1987 BY J. NISHIDA. UNKNOWN NUMBER OF PLANTS OBSERVED IN 1999.

Owner/Manager: UNKNOWN

Berberis nevinii

Nevin's barberry

Element Code: PDBER060A0

Status		NDDB Element Ranks		Other Lists	
Federal:	Endangered	**Global:**	G2	**CNPS List:**	1B
State:	Endangered	**State:**	S2.2	**R-E-D Code:**	3-3-3

Habitat Associations

General: CHAPARRAL, CISMONTANE WOODLAND, COASTAL SCRUB, RIPARIAN SCRUB.

Micro: ON STEEP, N-FACING SLOPES OR IN LOW GRADE SANDY WASHES. 290-1575M.

Occurrence No. 18 **Map Index:** 02130 **EO Index:** 21576

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: KNUDSEN, K. SN RSA #311436 (HERB)

Dates Last Seen
Element: 1976-11-22
Site: 1976-11-22
Record Last Updated: 1989-08-11

Quad Summary: PASADENA (3411822/110B)

County Summary: LOS ANGELES

Lat/Long: 34.17378° / -118.17312°
UTM: Zone-11 N3782046 E391883
Radius: 1/5 mile
Elevation: 960 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 12W
Section: XX **Qtr:** XX
Meridian: S

Location: W-FACING SLOPE RIM ARROYO SECO, NEAR CORNER ARROYO BLVD & WASHINGTON BLVD, PASADENA.

Ecological: ON ROCKY ALLUVIAL SOIL ASSOCIATED WITH RHUS INTEGRIFOLIA.

General: 6 PLANTS.

Owner/Manager: PVT

Calochortus plummerae

Plummer's mariposa lily

Element Code: PMLIL0D150

Status — Federal: None; State: None

NDDB Element Ranks — Global: G3; State: S3.2

Other Lists — CNPS List: 1B; R-E-D Code: 2-2-3

Habitat Associations

General: COASTAL SCRUB, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.

Micro: OCCURS ON ROCKY AND SANDY SITES, USUALLY OF GRANITIC OR ALLUVIAL MATERIAL. CAN BE VERY COMMON AFTER FIRE. 90-1610M.

Occurrence No. 38 **Map Index:** 27701 **EO Index:** 22637

Dates Last Seen — Element: 1906-06-10; Site: 1906-06-10

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: EASTWOOD #58 CAS #108192 (HERB)

Record Last Updated: 1995-11-29

Quad Summary: LOS ANGELES (3411812/110C), PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.11713° / -118.17885°
UTM: Zone-11 N3775770 E391282
Radius: 1 mile
Elevation: 600 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01S **Range:** 12W **Section:** XX **Qtr:** XX **Meridian:** S

Location: GARVANZA.

Location Detail: MAPPED WEST OF PASADENA.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1906 COLLECTION BY EASTWOOD.

Owner/Manager: UNKNOWN

Occurrence No. 43 **Map Index:** 27696 **EO Index:** 26376

Dates Last Seen — Element: 1913-06-15; Site: 1913-06-15

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MOXLEY, G. #158 RSA #377425 (HERB)

Record Last Updated: 1996-02-21

Quad Summary: LOS ANGELES (3411812/110C), PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.12744° / -118.17691°
UTM: Zone-11 N3776912 E391474
Radius: 2/5 mile
Elevation: 900 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N **Range:** 12W **Section:** XX **Qtr:** XX **Meridian:** S

Location: SOUTHEAST SHOULDER OF POPPY PEAK, AMMANDALE.

Location Detail: POPPY PEAK IS ABOUT 2-2.5 MILES SSW OF THE ROSE BOWL IN PASADENA.

Threat: AREA IS SOLID PINK ON TOPO; IS THERE ANY HABITAT LEFT?

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1913 COLLECTION BY MOXLEY.

Owner/Manager: UNKNOWN

Occurrence No. 44 **Map Index:** 27695 **EO Index:** 686

Dates Last Seen — Element: 1932-06-18; Site: 1932-06-18

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: MCDONALD & STOKKINK 1991 (PERS)

Record Last Updated: 1995-11-30

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.18240° / -118.22709°
UTM: Zone-11 N3783060 E386920
Radius: 1 mile
Elevation: 900 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: VERDUGO CANYON, NEAR LOS ANGELES.

Location Detail: TWO COLLECTIONS ATTRIBUTED TO THIS SITE; "DRY HILLSIDE...VERDUGO CANYON" AND "VERDUGO WOODLANDS". VERDUGO WOODLANDS MAY REFER EITHER TO LOCAL HABITAT OR TO PLACE NAME (VERDUGO WOODLANDS SCHOOL IS FOUND ADJACENT TO CANYON).

Ecological: IN CHAPARRAL; SEMI-XEROPHYTIC HILLSIDE.

General: SITE REPORTED IN 1932 COLLECTION BY HILL #16859 (RSA) AND 1915 COLLECTION BY MACBRIDE AND PAYSON #762 (G, RM).

Owner/Manager: UNKNOWN

Calochortus plummerae

Plummer's mariposa lily

Element Code: PMLIL0D150

Status
Federal: None
State: None

NDDB Element Ranks
Global: G3
State: S3.2

Other Lists
CNPS List: 1B
R-E-D Code: 2-2-3

Habitat Associations

General: COASTAL SCRUB, CHAPARRAL, VALLEY AND FOOTHILL GRASSLAND, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST.

Micro: OCCURS ON ROCKY AND SANDY SITES, USUALLY OF GRANITIC OR ALLUVIAL MATERIAL. CAN BE VERY COMMON AFTER FIRE. 90-1610M.

Occurrence No. 76 Map Index: 47986 EO Index: 47986

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: ACKLEY, M. SN SBBG (HERB)

Dates Last Seen
Element: 1926-06-01
Site: 1926-06-01

Record Last Updated: 2002-05-22

Quad Summary: PASADENA (3411822/110B)

County Summary: LOS ANGELES

Lat/Long: 34.20648° / -118.22512°
UTM: Zone-11 N3785728 E387134
Radius: 3/5 mile
Elevation: 1,280 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 13W
Section: 03 Qtr: XX
Meridian: S

Location: MONROSE.

Location Detail:MAPPED IN GENERAL VICINITY OF MONROSE BY CNDDB.

Threat: POSSIBLE THREAT FROM DEVELOPMENT. IST HIS OCCURRENCE STILL THERE?

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1926 COLLECTION BY ACKLEY. NEEDS FIELDWORK. MUCH OF AREA IN NOW DEVELOPED ACCORDING TO TOPO MAP.

Owner/Manager: UNKNOWN

Centromadia parryi ssp. australis

southern tarplant

Element Code: PDAST4R0P4

Status — Federal: None; State: None

NDDB Element Ranks — Global: G4?T2; State: S2.1

Other Lists — CNPS List: 1B; R-E-D Code: 3-3-2

Habitat Associations

General: MARSHES AND SWAMPS (MARGINS), VALLEY AND FOOTHILL GRASSLAND, VERNAL POOLS. FROM SOUTHERN CALIFORNIA AND BAJA CALIF.

Micro: OFTEN IN DISTURBED SITES NEAR THE COAST; ALSO IN ALKALINE SOILS SOMETIMES WITH SALTGRASS; ALSO VERNAL POOLS. 0-425M.

Occurrence No. 26 **Map Index:** 35391 **EO Index:** 29323

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: PIERSON, F. #1350 RSA (HERB)

Dates Last Seen — Element: 1951-XX-XX; Site: 1997-10-19

Record Last Updated: 1998-08-27

Quad Summary: MT. WILSON (3411821/110A), PASADENA (3411822/110B)

County Summary: LOS ANGELES

Lat/Long: 34.17847° / -118.12697°
UTM: Zone-11 N3782518 E396142
Radius: 2/5 mile
Elevation: 1,150 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 12W
Section: XX **Qtr:** XX
Meridian: S

Location: ALTADENA NEAR LOS ANGELES, 1085 NEW YORK DRIVE.

Location Detail: MAPPED ALONG THE "1000" BLOCK OF NEW YORK DRIVE, JUST EAST OF LAKE AVE. THIS SECTION OF NEW YORK DRIVE HAS BEEN HEAVILY DEVELOPED IN TRACT HOMES AND CITY STREETS ACC TO GARDINER (1997).

General: MAPPED BASED ON COLLECTION BY PIERSON (FROM 1951 ACC TO GAR97R01). SPECIMEN IN H. PUNGENS FILE AT RSA BUT TENATIVELY IDENTIFIED TO H. PARRYI AUSTRALIS BY D. BRAMLET (1990). THIS SECTION OF NEW YORK DRIVE HAS BEEN HEAVILY DEVELOPED IN TRACT

Owner/Manager: UNKNOWN

Chorizanthe parryi var. parryi

Parry's spineflower

Element Code: PDPGN040J2

Status
Federal: None
State: None

NDDB Element Ranks
Global: G2T2
State: S2.1

Other Lists
CNPS List: 3
R-E-D Code: ?-2-3

Habitat Associations
General: COASTAL SCRUB, CHAPARRAL.
Micro: DRY SLOPES AND FLATS; SOMETIMES AT INTERFACE OF 2 VEG TYPES, SUCH AS CHAP AND OAK WDLAND; DRY, SANDY SOILS. 40-1705M.

Occurrence No. 37 **Map Index:** 42077 **EO Index:** 42077

Dates Last Seen
Element: 1920-05-12
Site: 1920-05-12

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: PEIRSON, F. #446 JEPS (HERB)

Record Last Updated: 1999-12-23

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.20936° / -118.17094°
UTM: Zone-11 N3785989 E392129
Area: 117.0 ac
Elevation: 1,250 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POLYGON

Township: 02N
Range: 12W
Section: 31 **Qtr:** XX
Meridian: S

Location: ARROYO SECO, SAN GABRIEL MOUNTAINS NORTHEAST OF LA CANADA FLINTRIDGE.
Location Detail: COLLECTED AT 1250' ELEVATION IN ARROYO SECO. COLLECTION FROM "NEAR PASADENA" IS ALSO ATTRIBUTED TO THIS SITE.
General: TWO COLLECTIONS FROM THIS VICINITY; F. PEIRSON (#446 JEPS) IN 1919 AND A. OTTLEY (#676 JEPS) IN 1920.
Owner/Manager: UNKNOWN

Dodecahema leptoceras

slender-horned spineflower

Element Code: PDPGN0V010

Status		NDDB Element Ranks		Other Lists	
Federal:	Endangered	**Global:**	G1	**CNPS List:**	1B
State:	Endangered	**State:**	S1.1	**R-E-D Code:**	3-3-3

Habitat Associations

General: CHAPARRAL, COASTAL SCRUB (ALLUVIAL FAN SAGE SCRUB). HIST. FROM LAX, RIV, AND SBD COUNTIES; EXTIRP. FROM MUCH OF RANGE.

Micro: FLOOD DEPOSITED TERRACES AND WASHES; ASSOC INCLUDE ENCELIA, DALEA, LEPIDOSPARTUM, ETC. 200-760M.

Occurrence No. 36 **Map Index:** 41056 **EO Index:** 41056

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: DAVIDSON, A. #3163 RSA (HERB)

Dates Last Seen
Element: 1916-07-01
Site: 1916-07-01
Record Last Updated: 1999-05-14

Quad Summary: PASADENA (3411822/110B), BURBANK (3411823/111A)
County Summary: LOS ANGELES

Lat/Long: 34.22086° / -118.24474°
UTM: Zone-11 N3787345 E385345
Radius: 1 mile
Elevation: 1,800 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 13W
Section: 33 **Qtr:** XX
Meridian: S

Location: CRESCENTA (LA CRESCENTA).

Location Detail: MAPPED IN VICINITY OF LA CRESCENTA.

Threat: THIS AREA APPEARS TO BE HEAVILY DEVELOPED ACCORDING TO THE TOPO MAP.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1916 COLLECTION BY DAVIDSON.

Owner/Manager: UNKNOWN

Dudleya multicaulis

many-stemmed dudleya

Element Code: PDCRA040H0

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G2	**CNPS List:** 1B
State: None	**State:** S2.1	**R-E-D Code:** 1-2-3

Habitat Associations

General: CHAPARRAL, COASTAL SCRUB, VALLEY AND FOOTHILL GRASSLAND. ENDEMIC TO SOUTHERN CALIFORNIA.

Micro: IN HEAVY, OFTEN CLAYEY SOILS OR GRASSY SLOPES. 0-790M.

Occurrence No. 22 **Map Index:** 48012 **EO Index:** 48012

Dates Last Seen
Element: 1925-06-XX
Site: 1925-06-XX

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: KESSLER, SN, LAM (HERB)

Record Last Updated: 2002-06-03

Quad Summary: LOS ANGELES (3411812/110C), HOLLYWOOD (3411813/111D), BEVERLY HILLS (3411814/111C), PASADENA (3411822/110B), BURBANK (3411823/111A), VAN NUYS (3411824/111B)

County Summary: LOS ANGELES

Lat/Long: 34.12031° / -118.33213°
UTM: Zone-11 N3776297 E377150
Radius: .5 mile
Elevation: 800 ft

Mapping PrecisionNON-SPECIFIC
Symbol Type:POINT

Township: 01N
Range: 14W
Section: 34 **Qtr:** XX
Meridian: S

Location: HOLLYWOOD HILLS.

Location Detail: EXACT LOCATION UNKNOWN. MAPPED IN VICINITY OF HOLLYWOOD RESERVOIR.

Threat: POSSIBLY EXTIRPATED BY DEVELOPMENT.

General: ONLY SOURCES OF INFORMATION FOR THIS SITE ARE COLLECTIONS BY BRAUNTON IN 1905 & KESSLER IN 1925. NEEDS FIELDWORK.

Owner/Manager: UNKNOWN

Emys (=Clemmys) marmorata pallida

southwestern pond turtle

Element Code: ARAAD02032

Status
Federal: Species of Concern
State: None

NDDB Element Ranks
Global: G3G4T2T3
State: S2

Other Lists
CDFG Status: SC

Habitat Associations
General: INHABITS PERMANENT OR NEARLY PERMANENT BODIES OF WATER IN MANY HABITAT TYPES; BELOW 6000 FT ELEV.
Micro: REQUIRE BASKING SITES SUCH AS PARTIALLY SUBMERGED LOGS, VEGETATION MATS, OR OPEN MUD BANKS. NEED SUITABLE NESTING SITES.

* SENSITIVE *

Occurrence No. 105 Map Index: 02165 EO Index: 28192
Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: BRODE, J. ND (PERS)

Dates Last Seen
Element: 1971-06-15
Site: 1987-XX-XX
Record Last Updated: 1991-06-12

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

* SENSITIVE *

Lat/Long:
UTM:
Radius:
Elevation:
Mapping Precision:
Symbol Type:
Township:
Range:
Section: Qtr:
Meridian:

Location: *SENSITIVE* Location information suppressed.
Location Detail: Please contact the California Natural Diversity Database, California Department of Fish and Game, for more information: (916) 324-3812.

Owner/Manager:

Helianthus nuttallii ssp. parishii

Los Angeles sunflower

Element Code: PDAST4N102

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G5TH	**CNPS List:** 1A
State: None	**State:** SH	**R-E-D Code:** *

Habitat Associations

General: MARSHES AND SWAMPS (COASTAL SALT AND FRESHWATER). HISTORICAL FROM SOUTHERN CALIFORNIA.

Micro: 5-1675M.

Occurrence No. 2 **Map Index:** 02183 **EO Index:** 16793

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: GREATE, L. A. #4018 LAM (HERB)

Dates Last Seen
Element: 1903-XX-XX
Site: 1903-XX-XX

Record Last Updated: 1989-08-11

Quad Summary: LOS ANGELES (3411812/110C), PASADENA (3411822/110B)

County Summary: LOS ANGELES

Lat/Long: 34.12390° / -118.13701°
UTM: Zone-11 N3776477 E395149
Radius: 1/5 mile
Elevation:

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 12W
Section: XX **Qtr:** XX
Meridian: S

Location: OAK KNOLL, PASADENA.

General: ONE CLUMP REMAINING IN 1903.

Owner/Manager: UNKNOWN

Linanthus orcuttii

Orcutt's linanthus | Element Code: PDPLM090X0

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S2.3

Other Lists
CNPS List: 1B
R-E-D Code: 2-1-2

Habitat Associations
General: CHAPARRAL, LOWER MONTANE CONIFEROUS FOREST.
Micro: SOMETIMES IN DISTURBED AREAS; OFTEN IN GRAVELLY CLEARINGS. 1060-2000M.

Occurrence No. 14 **Map Index:** 39017 **EO Index:** 48599

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HART, C. SN CAS #128469 (HERB)

Dates Last Seen
Element: 1925-05-18
Site: 1925-05-18
Record Last Updated: 2002-08-16

Quad Summary: EL MONTE (3411811/110D), LOS ANGELES (3411812/110C), MT. WILSON (3411821/110A), PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.15159° / -118.15084°
UTM: Zone-11 N3779562 E393908
Radius: 5 mile
Elevation: 1,000 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 01N
Range: 12W
Section: 21 **Qtr:** XX
Meridian: S

Location: PASADENA.
Location Detail: EXACT LOCATION NOT KNOWN; SITE MAPPED IN GENERAL AREA OF PASADENA.
General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1925 COLLECTION BY HART. NEEDS FIELDWORK.
Owner/Manager: UNKNOWN

Phrynosoma coronatum (blainvillei)

Coast (San Diego) horned lizard

Element Code: ARACF12021

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4T3T4
State: S2S3

Other Lists
CDFG Status: SC

Habitat Associations
General: INHABITS COASTAL SAGE SCRUB AND CHAPARRAL IN ARID AND SEMI-ARID CLIMATE CONDIT
Micro: PREFERS FRIABLE, ROCKY, OR SHALLOW SANDY SOILS.

Occurrence No. 128 **Map Index:** 15985 **EO Index:** 28076

Dates Last Seen
Element: 1911-XX-XX
Site: 1911-XX-XX

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BRODE, J. 1986 (PERS)

Record Last Updated: 1989-08-10

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.21778° / -118.14619°
UTM: Zone-11 N3786897 E394420
Radius: 1 mile
Elevation: 2,000 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 02N
Range: 12W
Section: 33 **Qtr:** NW
Meridian: S

Location: MILLARD CANYON, NEAR PASADENA.

General: OBSERVED BY BRYANT IN 1911.

Owner/Manager: UNKNOWN

Occurrence No. 201 **Map Index:** 02110 **EO Index:** 28029

Dates Last Seen
Element: XXXX-XX-XX
Site: XXXX-XX-XX

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: BRODE, J. 1986 (PERS)

Record Last Updated: 1989-08-10

Quad Summary: PASADENA (3411822/110B), CONDOR PEAK (3411832/136C)
County Summary: LOS ANGELES

Lat/Long: 34.26026° / -118.18545°
UTM: Zone-11 N3791649 E390858
Radius: 1 mile
Elevation: 3,000 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 02N
Range: 12W
Section: XX **Qtr:** XX
Meridian: S

Location: ON ANGELES CREST HWY, 6 MI NE LA CANADA.

General: LACM SPECIMEN; DATE OF COLLECTION UNKNOWN.

Owner/Manager: USFS-ANGELES NF

Rana muscosa

mountain yellow-legged frog

Element Code: AAABH01140

Status		NDDB Element Ranks		Other Lists	
Federal:	Endangered	Global:	G2	CDFG Status:	SC
State:	None	State:	S2		

Habitat Associations

General: FEDERAL LISTING REFERS TO POPULATIONS IN THE SAN GABRIEL, SAN JACINTO & SAN BERNARDINO MOUNTAINS ONLY.

Micro: ALWAYS ENCOUNTERED WITHIN A FEW FEET OF WATER. TADPOLES MAY REQUIRE UP TO 2 YRS TO COMPLETE THEIR AQUATIC DEVELOPMENT.

Occurrence No. 86 **Map Index:** 42566 **EO Index:** 42566

Dates Last Seen
Element: 1936-09-10
Site: 1936-09-10

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: MVZ 2000 (MUS)

Record Last Updated: 2000-05-10

Quad Summary: PASADENA (3411822/110B)

County Summary: LOS ANGELES

Lat/Long: 34.21003° / -118.17076°
UTM: Zone-11 N3786063 E392146
Radius: 1/5 mile
Elevation: 1,240 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 02N
Range: 12W
Section: 31 **Qtr:** SE
Meridian: S

Location: ARROYO SECO, 0.5 MILE NORTH OF CALIFORNIA INSTITUTE OF TECHNOLOGY (JPL), 4.5 MILES NNW OF PASADENA.

Location Detail: MUSEUM RECORD LOCALITY: "ARROYO SECO, LOS ANGELES CO. LAT/LONG: 34.21; -118.17". LACM SPECIMEN MAPPED AT THIS LOCATION, INFO GIVEN ONLY AS ARROYO SECO, PASADENA.

Ecological: STREAM FLOWS THROUGH SOUTHERN SYCAMORE ALDER RIPARIAN WOODLAND.

General: ONE FROG COLLECTED BY J. GRINNELL 3 AUG 1903, MVZ #771 (HOLOTYPE). 1 COLLECTED BY E. FISCHER 1936, LACM #1708. JENNINGS CONSIDERS THIS POPULATION TO BE EXTIRPATED.

Owner/Manager: USFS-ANGELES NF

Ribes divaricatum var. parishii

Parish's gooseberry

Element Code: PDGRO020F3

Status		NDDB Element Ranks		Other Lists	
Federal:	None	Global:	G4T1	CNPS List:	1B
State:	None	State:	S1.1	R-E-D Code:	3-3-3

Habitat Associations

General: RIPARIAN WOODLAND.

Micro: SALIX SWALES IN RIPARIAN HABITATS. 60-305M.

Occurrence No. 6 **Map Index:** 39017 **EO Index:** 34024

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Possibly Extirpated
Trend: Unknown
Main Source: JONES, M. SN POM #93525 (HERB)

Dates Last Seen
Element: 1882-03-07
Site: 1882-03-07
Record Last Updated: 1998-06-19

Quad Summary: EL MONTE (3411811/110D), LOS ANGELES (3411812/110C), MT. WILSON (3411821/110A), PASADENA (3411822/110B)

County Summary: LOS ANGELES

Lat/Long: 34.15159° / -118.15084°
UTM: Zone-11 N3779562 E393908
Radius: 5 mile
Elevation: 1,000 ft

Mapping Precision NON-SPECIFIC
Symbol Type: POINT

Township: 01N
Range: 12W
Section: 21 **Qtr:** XX
Meridian: S

Location: PASADENA.

Location Detail: EXACT LOCATION NOT KNOWN; SITE MAPPED IN GENERAL AREA OF PASADENA.

General: ONLY SOURCE OF INFORMATION FOR THIS SITE IS 1882 COLLECTION BY M.E. JONES.

Owner/Manager: UNKNOWN

Southern Coast Live Oak Riparian Forest

Element Code: CTT61310CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S4

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 76 **Map Index:** 02117 **EO Index:** 13412

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen
Element: 1935-XX-XX
Site: 1978-09-19
Record Last Updated: 1998-08-31

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.16859° / -118.18331°
UTM: Zone-11 N3781481 E390937
Area: 30.0 ac
Elevation: 1,100 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 12W
Section: XX **Qtr:** XX
Meridian: S

Location: INTERMITTENT CREEK TO WEST OF LINDA VISTA SCHOOL, LINDA VISTA.
Location Detail: URBANIZED ACCORDING TO 1978 AERIAL PHOTOS.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO
Owner/Manager: UNKNOWN

Occurrence No. 77 **Map Index:** 02050 **EO Index:** 15966

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen
Element: 1935-XX-XX
Site: 1978-09-19
Record Last Updated: 1998-08-31

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.19311° / -118.22386°
UTM: Zone-11 N3784245 E387232
Area: 80.2 ac
Elevation: 1,080 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 13W
Section: XX **Qtr:** XX
Meridian: S

Location: EAST OF VERDUGO DR, SOUTH OF MONTECITO DR. BETWEEN MONTROSE & GLENDALE.
Location Detail: URBANIZED ACCORDING TO WIESLANDER SURVEY; COMMUNITY EXTIRPATED.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Owner/Manager: UNKNOWN

Occurrence No. 78 **Map Index:** 02059 **EO Index:** 15964

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen
Element: 1935-XX-XX
Site: 1978-09-19
Record Last Updated: 1998-08-31

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.18828° / -118.22065°
UTM: Zone-11 N3783705 E387521
Area: 44.3 ac
Elevation: 1,040 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 13W
Section: XX **Qtr:** XX
Meridian: S

Location: EAST OF VERDUGO CANYON, BETWEEN MONTICELLO DR & FERN LANE; BETW MONTROSE & GLENDALE.
Location Detail: URBANIZED ACCORDING TO INTERPRETATION OF 1978 AERIAL PHOTOS; COMMUNITY EXTIRPATED.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Owner/Manager: UNKNOWN

Southern Coast Live Oak Riparian Forest

Element Code: CTT61310CA

Status — Federal: None; State: None

NDDB Element Ranks — Global: G4; State: S4

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 79 **Map Index:** 02060 **EO Index:** 15965

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen — Element: 1935-XX-XX; Site: 1978-09-19
Record Last Updated: 1998-08-31

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.18382° / -118.21989°
UTM: Zone-11 N3783188 E387585
Area: 48.9 ac
Elevation: 1,080 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: EAST OF VERDUGO CANYON ALONG FERN LANE.
Location Detail: URBANIZED ACCORDING TO INTERPRETATION OF 1978 AERIAL PHOTOS, COMMUNITY EXTIRPATED.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Owner/Manager: UNKNOWN

Occurrence No. 80 **Map Index:** 02096 **EO Index:** 15963

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen — Element: 1935-XX-XX; Site: 1978-09-19
Record Last Updated: 1998-08-31

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.18926° / -118.19734°
UTM: Zone-11 N3783788 E389670
Area: 352.0 ac
Elevation: 1,120 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: FLINTRIDGE, TRIBUTARIES TO DEVILS GATE RESERVOIR. BETWEEN FOOTHILL FREEWAY & CERRO NEGRO
Location Detail: URBANIZED ACCORDING TO INTERPRETATION OF 1978 AERIAL PHOTOS. COMMUNITY EXTIRPATED.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY. UNABLE TO CONVERT TO FLORISTIC CLASSIFICATION, LACKS SPP. INFO.
Owner/Manager: UNKNOWN

Occurrence No. 81 **Map Index:** 02046 **EO Index:** 15962

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1986 (MAP)

Dates Last Seen — Element: 1978-09-19; Site: 1978-09-19
Record Last Updated: 1998-08-28

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.24261° / -118.22870°
UTM: Zone-11 N3789739 E386852
Area: 33.9 ac
Elevation: 2,280 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N **Range:** 13W **Section:** 22 **Qtr:** SE **Meridian:** S

Location: GOSS CANYON, NORTH OF LA CRESCENTA, W OF BRIGGS TERRACE.
Location Detail: MAPPED PER INTERPRETATION OF 1978 AERIAL PHOTOS.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. THIS WAS OCC #081 OF CTT61310CA.
Owner/Manager: UNKNOWN

Southern Coast Live Oak Riparian Forest

Element Code: CTT61310CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S4

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 97 Map Index: 02024 EO Index: 15951

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen
Element: 1978-09-19
Site: 1978-09-19
Record Last Updated: 1998-08-28

Quad Summary: PASADENA (3411822/110B), BURBANK (3411823/111A)
County Summary: LOS ANGELES

Lat/Long: 34.19156° / -118.24500°
UTM: Zone-11 N3784096 E385282
Area: 94.7 ac
Elevation: 1,480 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 13W
Section: 04 Qtr: S
Meridian: S

Location: DEER CREEK, VERDUGO MTNS, SW OF MONTROSE.
Location Detail: MAPPED PER INTERPRETATION OF 1978 AERIAL PHOTOS.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. THIS WAS OCC #097 OF CTT61310CA.
Owner/Manager: UNKNOWN

Occurrence No. 98 Map Index: 02006 EO Index: 15949

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen
Element: 1978-09-19
Site: 1978-09-19
Record Last Updated: 1998-08-28

Quad Summary: PASADENA (3411822/110B), BURBANK (3411823/111A)
County Summary: LOS ANGELES

Lat/Long: 34.20468° / -118.24948°
UTM: Zone-11 N3785556 E384887
Area: 115.9 ac
Elevation: 1,320 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 13W
Section: 33 Qtr: S
Meridian: S

Location: ENGLEHEARD CANYON, WEST OF VERDUGO CITY, VERDUGO MOUNTAINS.
Location Detail: MAPPED PER INTERPRETATION OF 1978 AERIAL PHOTOS.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. THIS WAS OCC #098 OF CTT61310CA.
Owner/Manager: UNKNOWN

Occurrence No. 99 Map Index: 02112 EO Index: 15948

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen
Element: 1976-09-19
Site: 1976-09-19
Record Last Updated: 1998-08-28

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.17715° / -118.18347°
UTM: Zone-11 N3782431 E390933
Area: 22.3 ac
Elevation: 1,280 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N
Range: 12W
Section: XX Qtr: XX
Meridian: S

Location: INTERMITTENT CREEK SOUTH OF FLINTRIDGE ACADEMY OF THE SACRED HEART.
Location Detail: MAPPED PER INTERPRETATION OF 1978 AERIAL PHOTOS.
Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.
General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. THIS WAS OCC #099 OF CTT61310CA
Owner/Manager: UNKNOWN

Southern Coast Live Oak Riparian Forest

Element Code: CTT61310CA

Status		NDDB Element Ranks		Other Lists
Federal:	None	**Global:**	G4	
State:	None	**State:**	S4	

Habitat Associations

General:

Micro:

Occurrence No. 105 **Map Index:** 01999 **EO Index:** 12505

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Decreasing
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen
Element: 1978-09-19
Site: 1978-09-19

Record Last Updated: 1998-08-28

Quad Summary: PASADENA (3411822/110B), BURBANK (3411823/111A)

County Summary: LOS ANGELES

Lat/Long: 34.17817° / -118.25389°
UTM: Zone-11 N3782621 E384444
Area: 44.4 ac
Elevation: 1,360 ft

Mapping PrecisionSPECIFIC
Symbol Type:POLYGON

Township: 01N
Range: 13W
Section: 09 **Qtr:** S
Meridian: S

Location: DEAD HORSE CANYON, GLENDALE.

Location Detail: MAPPED PER INTERPRETATION OF 1978 AERIAL PHOTOS. MUCH REDUCED FROM 1935 EXTENT.

Ecological: QUERCUS AGRIFOLIA WOODLAND FORMING CLOSED CANOPY ACCORDING TO WIESLANDER SURVEY.

General: NEEDS FIELD VERIFICATION OF VEGETATION CONDITION, COMPOSITION. THIS WAS OCC #105 OF CTT61310CA.

Owner/Manager: UNKNOWN

Southern Sycamore Alder Riparian Woodland

Element Code: CTT62400CA

Status — **Federal:** None; **State:** None

NDDB Element Ranks — **Global:** G4; **State:** S4

Other Lists

Habitat Associations

General:

Micro:

Occurrence No. 61 **Map Index:** 02203 **EO Index:** 15493

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen — **Element:** 1978-09-19; **Site:** 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: MT. WILSON (3411821/110A), PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.21028° / -118.12647°
UTM: Zone-11 N3786045 E396227
Area: 62.7 ac
Elevation: 1,920 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 12W **Section:** 03 **Qtr:** N **Meridian:** S

Location: LAS FLORES CANYON, NORTH OF ALTADENA.
Location Detail: EXTANT, 1978, PER AERIAL PHOTO INTERPRETATION.
Ecological: CLOSED CANOPY QUERCUS CHRYSOLEPIS & ALNUS RHOMBIFOLIA ACCORDING TO WIESLANDER SURVEY.
General: RECENT GROUND TRUTH NEEDED. THIS WAS OCC #061 OF CTT62400CA.
Owner/Manager: USFS-ANGELES NF, OTHERS

Occurrence No. 68 **Map Index:** 02083 **EO Index:** 15486

Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen — **Element:** 1935-XX-XX; **Site:** 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.15705° / -118.19132°
UTM: Zone-11 N3780210 E390183
Area: 182.3 ac
Elevation: 920 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: SCHOLL CANYON SOUTH OF FLINT PEAK.
Location Detail: NOW URBANIZED AS INTERPRETAED FROM 1978 AERIALS.
Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: THIS WAS OCC #068 OF CTT62400CA.
Owner/Manager: UNKNOWN

Occurrence No. 69 **Map Index:** 02094 **EO Index:** 13383

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Decreasing
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen — **Element:** 1978-09-19; **Site:** 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.16807° / -118.19535°
UTM: Zone-11 N3781437 E389826
Area: 66.4 ac
Elevation: 1,160 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: SYCAMORE CANYON TRIBUTARY ON NE SLOPE OF FLINT PEAK, SAN RAFAEL HILLS.
Location Detail: EXTANT, 1978, PER AERIAL PHOTO INTERPRETATION; MUCH REDUCED FROM ORIGINAL EXTENT ALONG MAIN CANOPY & OTHER TRIBUTARIES.
Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: RECENT GROUND TRUTH NEEDED. THIS WAS OCC #068 OF CTT62400CA.
Owner/Manager: UNKNOWN

Southern Sycamore Alder Riparian Woodland

Element Code: CTT62400CA

Status	NDDB Element Ranks	Other Lists
Federal: None	**Global:** G4	
State: None	**State:** S4	

Habitat Associations
General:
Micro:

Occurrence No. 70 **Map Index:** 02135 **EO Index:** 15485
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen — **Element:** 1978-09-19 **Site:** 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: MT. WILSON (3411821/110A), PASADENA (3411822/110B), CHILAO FLAT (3411831/136D), CONDOR PEAK (3411832/136C)
County Summary: LOS ANGELES

Lat/Long: 34.23544° / -118.19535°
UTM: Zone-11 N3788907 E389914
Area: 2,261.3 ac
Elevation: 2,120 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N **Range:** 12W **Section:** XX **Qtr:** XX **Meridian:** S

Location: ARROYO SECO & MANY TRIBUTARIES, U/S OF DEVILS GATE RESER- VOIR.
Location Detail: EXTANT, 1978, PER AERIAL PHOTO INTERPRETATION.
Ecological: CLOSED CANOPY OF VARIOUS MIXES OF QUERCUS AGRIFOLIA, Q. CHRYSOLEPIS, ALNUS RHOMBIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: RECENT GROUND TRUTH NEEDED. THIS WAS OCC #070 OF CTT62400CA.
Owner/Manager: USFS-ANGELES NF, UNKNOWN

Occurrence No. 71 **Map Index:** 02041 **EO Index:** 15484
Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen — **Element:** 1978-09-19 **Site:** 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.17282° / -118.22780°
UTM: Zone-11 N3781999 E386842
Area: 109.2 ac
Elevation: 880 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: VERDUGO WASH, NEAR VERDUGO PARK, & TRIBUTARY FROM WEST.
Location Detail: EXTIRPATED, PER 1978 AERIAL PHOTO INTERPRETATION.
Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: THIS WAS OCC #071 OF CTT62400CA.
Owner/Manager: UNKNOWN

Occurrence No. 72 **Map Index:** 02054 **EO Index:** 15482
Occ Rank: None
Origin: Natural/Native occurrence
Presence: Extirpated
Trend: Unknown
Main Source: WIESLANDER, A. 1935 (MAP)

Dates Last Seen — **Element:** 1935-XX-XX **Site:** 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.20406° / -118.22301°
UTM: Zone-11 N3785458 E387325
Area: 29.5 ac
Elevation: 1,200 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 01N **Range:** 13W **Section:** XX **Qtr:** XX **Meridian:** S

Location: MONTROSE, NEAR JCT OF MONTROSE AVE & VERDUGO BLVD.
Location Detail: EXTIRPATED ACCORDING TO INTERPRETATION OF AERIAL PHOTOS.
Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: THIS WAS OCC #072 OF CTT62400CA.
Owner/Manager: UNKNOWN

Southern Sycamore Alder Riparian Woodland

Element Code: CTT62400CA

Status — Federal: None; State: None

NDDB Element Ranks — Global: G4; State: S4

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 73 **Map Index:** 02057 **EO Index:** 15483

Dates Last Seen — Element: 1978-09-19; Site: 1978-09-19

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1986 (MAP)
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B), CONDOR PEAK (3411832/136C)
County Summary: LOS ANGELES

Lat/Long: 34.24641° / -118.21756°
UTM: Zone-11 N3790148 E387883
Area: 234.4 ac
Elevation: 2,400 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N **Range:** 13W **Section:** 23 **Qtr:** W **Meridian:** S

Location: PICKENS, SUTTON & MULLALLY CANYONS, NORTH OF LA CRESCENTA.
Location Detail: EXTANT, 1978, PER AERIAL PHOTO INTERPRETATION.
Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA, Q. CHRYSOLEPIS, ALNUS RHOMBIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: RECENT GROUND TRUTH NEEDED. THIS WAS OCC #073 OF CTT62400CA.
Owner/Manager: USFS-ANGELES NF, OTHERS

Occurrence No. 112 **Map Index:** 02035 **EO Index:** 15446

Dates Last Seen — Element: 1978-09-19; Site: 1978-09-19

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1986 (MAP)
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B), CONDOR PEAK (3411832/136C)
County Summary: LOS ANGELES

Lat/Long: 34.24936° / -118.23313°
UTM: Zone-11 N3790492 E386453
Area: 42.4 ac
Elevation: 2,720 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N **Range:** 13W **Section:** 22 **Qtr:** NW **Meridian:** S

Location: EAGLE CANYON, N OF LA CRESCENTA.
Location Detail: 1978 EXTENT MAPPED FROM INTERPRETATION OF AERIAL PHOTOS.
Ecological: CLOSED CANOPY QUERCUS CHRYSOLEPIS, Q. AGRIFOLIA, PLATANUS RACEMOSA & ALNUS RHOMBIFOLIA ACCORDING TO WIESLANDER SURVEY.
General: RECENT GROUND TRUTH NEEDED. THIS WAS OCC #112 OF CTT62400CA.
Owner/Manager: UNKNOWN

Occurrence No. 113 **Map Index:** 02072 **EO Index:** 15444

Dates Last Seen — Element: 1978-09-19; Site: 1978-09-19

Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1986 (MAP)
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.23203° / -118.20864°
UTM: Zone-11 N3788544 E388685
Area: 114.0 ac
Elevation: 2,120 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N **Range:** 13W **Section:** 26 **Qtr:** XX **Meridian:** S

Location: HALL BECKLEY CANYON, EAST OF LA CRESCENTA.
Location Detail: 1978 EXTENT MAPPED FROM INTERPRETATION OF AERIAL PHOTOS.
Ecological: CLOSED CANOPY QUERCUS AGRIFOLIA & PLATANUS RACEMOSA ACCORDING TO WIESLANDER SURVEY.
General: NEEDS FIELD VERIFICATION. THIS WAS OCC #113 OF CTT62400CA.
Owner/Manager: UNKNOWN

Southern Sycamore Alder Riparian Woodland

Element Code: CTT62400CA

Status
Federal: None
State: None

NDDB Element Ranks
Global: G4
State: S4

Other Lists

Habitat Associations
General:
Micro:

Occurrence No. 136 **Map Index:** 02027 **EO Index:** 15425
Occ Rank: Unknown
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: HOLLAND, R. 1988 (MAP)

Dates Last Seen
Element: 1978-09-19
Site: 1978-09-19
Record Last Updated: 1998-07-22

Quad Summary: PASADENA (3411822/110B), CONDOR PEAK (3411832/136C)
County Summary: LOS ANGELES

Lat/Long: 34.25069° / -118.23763°
UTM: Zone-11 N3790645 E366040
Area: 34.6 ac
Elevation: 2,920 ft
Mapping Precision SPECIFIC
Symbol Type: POLYGON
Township: 02N
Range: 13W
Section: 22 **Qtr:** NW
Meridian: S

Location: SHIELDS CANYON, NORTH OF LAS CRESCENTA.

Location Detail: 1978 EXTENT MAPPED FROM INTERPRETATION OF AERIAL PHOTOS.

Ecological: CLOSED CANOPY QUERCUS CHRYSOLEPIS, Q. AGRIFOLIA, PLATANUS RACEMOSA & ALNUS RHOMBIFOLIA ACCORDING TO WIESLANDER SURVEY.

General: NEEDS FIELD VERIFICATION. THIS WAS OCC #136 OF CTT62400CA.

Owner/Manager: USFS-ANGELES NF, UNKNOWN

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Coast Range newt

Element Code: AAAAF02032

Status
Federal: None
State: None

NDDB Element Ranks
Global: G5T4
State: S4

Other Lists
CDFG Status: SC

Habitat Associations
General: COASTAL DRAINAGES FROM MENDOCINO COUNTY TO SAN DIEGO COUNTY.
Micro: LIVES IN TERRESTRIAL HABITATS & WILL MIGRATE OVER 1 KM TO BREED IN PONDS, RESERVOIRS & SLOW MOVING STREAMS.

Occurrence No. 10 **Map Index:** 42566 **EO Index:** 52436
Occ Rank: Good
Origin: Natural/Native occurrence
Presence: Presumed Extant
Trend: Unknown
Main Source: COURTNEY, B. 2003 (OBS)

Dates Last Seen
Element: 2003-05-28
Site: 2003-05-28
Record Last Updated: 2003-09-11

Quad Summary: PASADENA (3411822/110B)
County Summary: LOS ANGELES

Lat/Long: 34.21003° / -118.17076°
UTM: Zone-11 N3786063 E392146
Radius: 1/5 mile
Elevation: 1,240 ft
Mapping Precision NON-SPECIFIC
Symbol Type: POINT
Township: 02N
Range: 12W
Section: 31 **Qtr:** SE
Meridian: S

Location: ARROYO SECO, 0.5 MILE NORTH OF CALIFORNIA INSTITUTE OF TECHNOLOGY (JPL), 4.5 MILES NNW OF PASADENA
Ecological: HABITAT CONSISTS SOUTHERN SYCAMORE ALDER WILLOW RIPARIAN, DOMINATED BY ARROYO WILLOW AND MULEFAT.
Threat: THREATENED BY POND MAINTENANCE (PONDS ARE MAINTAINED TO BE FREE OF SILT).
General: 2 ADULTS OBSERVED ON 28 MAY 2003 IN SOME GROUNDWATER RECHARGE PONDS.
Owner/Manager: PASADENA WATER AND POWER

Appendix C

Archaeological Records Search and Letter from Natural History Museum

W.H. Bonner Associates
Archaeofaunal Studies
Archaeological Surveys
Historical & Genealogical Research

15619 Ogram Avenue
Gardena, California 90249-4445

(310) 675-2745
whbonner@aol.com

January 22, 2004

Chris Mundhenk
Environmental Science Associates, Inc.
4221 Wilshire Boulevard, Suite 480
Los Angeles, California 90010-3512

RE: Cultural Resources Records Check for Alta Loma Park, located at the Intersection of Lincoln Avenue and Alta Loma Drive, in Altadena, Los Angeles, County California. Pasadena Quadrangle.

Dear Chris:

As per your request we have conducted a records check for the above referenced project at the South Central Coastal Information Center (SCCIC) on January 20, 2004. This search included a review of all recorded historic and prehistoric archaeological sites within a one-half mile radius of the project location, as well as a review of all known relevant cultural resource survey and excavation reports. In addition, we have checked our file of historic maps, the California *State Historic Resources Inventory* (HRI), the National *Register of Historic Places*, (NRHP) the listing of *California Historical Landmarks* (CHL), and the California *Points of Historical Interest* (PHI). The following is a discussion of our findings for the project location.

Due to the sensitive nature of cultural resources, archaeological site locations are not released.

PREHISTORIC RESOURCES:

The following prehistoric archaeological sites have been identified within a one-half mile radius of the project location: **NONE.**

HISTORIC RESOURCES:

The following historic archaeological sites have been identified within a one-half mile radius of the project location: **One: LAn-2055-H. Not located at the project address.**

inspection of historic maps -- *Pasadena* (1900) 15' series and *Altadena* (1928) 6' series -- indicated that the project vicinity, part of the Rancho San Pasqual land grant, was minimally developed in 1900 with two unpaved roads. By 1928, the general vicinity was moderately developed with four roads including Lincoln Avenue, Loma Alta Drive, and Palm Street, and fifteen scattered structures. Only one of these structures was located in what today is Loma Alta Park. The California *Historic Resources Inventory* (HRI) lists the following historic properties within a one-half mile radius of the project location: **Numerous, but none located at the park.**

The *National Register of Historic Places* (2000) lists the following properties located within a one-half mile radius of the project location: **NONE.**

The *California Historical Landmarks* (1996) of the Office of Historic Preservation, California Department of Parks and Recreation, lists the following Landmarks located within a one-half mile radius of the project location: **NONE.**

The *California Points of Historical Interest* (1992) of the Office of Historic Preservation, California Department of Parks and Recreation, lists the following properties located within a one-half mile radius of the project location: **NONE.**

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS:

Five survey and/or excavation reports are on file at the SCCIC for a one-half mile radius of the project location: **LA-925, LA-2098, LA-2501, LA-2799, and LA-4232 None of these investigations assessed the subject property.**

RECOMMENDATIONS

The absence of prehistoric resources within a one-half mile radius of the project location rates an archaeological sensitivity rating of **Low**. The presence of historic properties within a one-half mile radius of the project location rates an historical sensitivity rating of **Moderate.** According to the check list for the Alta Loma Park project ground disturbance (excavation, trenching, etc.) is planned for the proposed redevelopment of park facilities. Based upon the low archaeological and moderate historic sensitivity ratings we recommend the following:

(1) Phase I archaeological survey and monitoring are not necessary. (2) If alteration or construction is proposed to structures more than fifty years old, the structure should be historically assessed prior to approval of project plans.

If, in the future, ground disturbance is planned, (1) a Phase I archaeological survey and monitoring are not necessary. (2) If alteration or construction is proposed to structures more than fifty years old, the structure should be historically assessed prior to approval of project plans.

These recommendations are based on the lack recorded archaeological sites and the presence of historical properties within a half-mile of the park, but not within the park.

If you have any questions regarding our results or the recommendations presented herein, please feel free to contact our office at (310) 675-2745.

Sincerely,

Wayne H. Bonner

Wayne H. Bonner, M. A.
RPA Archaeologist

Vertebrate Paleontology Section
Telephone: (213) 763-3325
FAX: (213) 746-7431
e-mail: smcleod@usc.edu

NATURAL HISTORY MUSEUM
OF LOS ANGELES COUNTY

16 July 2003

Environmental Science Associates
4221 Wilshire Boulevard, Suite 480
Los Angeles, CA 90010

Attn: Christopher Mundhenk

re: Paleontological resources for the proposed Loma Alta County Park Gymnasium project area

Dear Christopher:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed Loma Alta County Park Gymnasium project area, covered on the section of the Pasadena USGS topographic quadrangle map, that you described in the letter you sent to me via FedEx 7 July 2003. We do not have any fossil vertebrate localities that lie directly within the proposed project boundaries nor any localities nearby from the same sedimentary rock units that occur in the proposed project area.

Without having a map that outlines the proposed project boundaries, it is somewhat difficult to determine, but it appears that the entire proposed project area has surficial deposits of soil and Quaternary Alluvium of fan, sand and gravel deposits derived from the surrounding hills. These types of deposits usually do not contain significant fossil vertebrate remains in the uppermost layers, especially when they have been previously disturbed by development activities such as has occurred in the proposed project area. At unknown depth, however, there are older Quaternary deposits, such as are exposed to the southeast of the proposed project area, that may well contain significant vertebrate fossils.

Shallow excavations in the proposed project area are unlikely to encounter any significant vertebrate fossil remains. Deeper excavations, however, may well uncover significant fossil vertebrates of Quaternary [Late Pleistocene] age. Therefore, any substantial subsurface excavation below the uppermost layers in the proposed project area should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding construction activities. Any fossils recovered during mitigation should be deposited in an accredited and permanent

900 Exposition Boulevard Los Angeles, CA 90007

scientific institution for the benefit of current and future generations.

This records search covers only the vertebrate paleontology records of the Natural History Museum of Los Angeles County. It is not intended to be a thorough paleontological survey of the proposed project area covering other institutional records, a literature survey, or any potential on-site survey.

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Appendix D

Fault Investigation

Earth Consultants International

Fault Investigation at the Proposed Gymnasium Site, Loma Alta Regional Park, Northeast of Lincoln Avenue and Loma Alta Street, in the Altadena area, Unincorporated Los Angeles County, California

August 25,1999
Project No. 998100-003

Prepared for:

Carde Ten Architects
1638 19th Street
Santa Monica, California 90404

Prepared by:

Earth Consultants International, Inc.
2522 North Santiago Boulevard, Suite B
Orange, California 92867

Earth Consultants International

ECI Project No. 998100-003
L&A Project No. 980224-003
August 25, 1999

To: **Carde Ten Architects**
1638 19th Street
Santa Monica, California 90404

Attention: **Mr. Eric Mar**

Subject: **Report, Fault Investigation** at the Proposed **Gymnasium Site, Loma Alta Regional Park,** Northeast of Lincoln Avenue and Loma Alta Street, in the **Altadena area,** Unincorporated Los Angeles County, California

Earth Consultants International, Inc. (ECI), an affiliate of Leighton and Associates, Inc. (Leighton), is pleased to present this report summarizing our findings and conclusions of a fault trenching study we conducted at your request for the Los Angeles County Department of Public Works at the Loma Alta Park in the Altadena area of unincorporated Los Angeles County, California. The park site is located northeast of the intersection of Lincoln Avenue and Loma Alta Street (Figure 1).

The primary purpose of the study was to assess whether active faults associated with the Sierra Madre fault system extend across the south-central portion of the site. A gymnasium is proposed to be constructed in the eastern section of the site, so a trench located so as to shadow the two preferred locations was excavated. The first, and preferred location is where the basketball courts are presently located. The second location is to the southwest, south of where the basketball courts are located. Our trench was located in the grassy field where baseball, soccer and football are played. This area was selected because our review of the park plans indicated that this area had been disturbed less than other areas on the park, and because we would not have to break any hardscape, which could have increased the cost of the investigation. The trench was extended across two lineaments that were identified in the aerial photographs. The northern portion of the trench was excavated across a rise that although modified, appeared to be associated with a tectonically uplifted block on the northern portion of the study area. The trench was also excavated in a southwesterly direction to intersect at the highest possible angle the features identified from the aerial photographs.

As part of the study we logged a trench approximately 370 feet long and 9 to 16 feet deep. We did not observe any faults or fractures in the trench exposure. Based on soil stratigraphic techniques, we estimate that the soils exposed at the bottom of the trench in the northern 190 feet are Late Pleistocene in age (a minimum of 14,600 years old, and most likely 31,200 years old). Soils exposed in the central portion of the trench between the 190 and 275 foot stations are estimated to be earliest Holocene to late Pleistocene in age (between 9,500 and 20,500

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years old). The southern-most portion of the trench exposed a thick section of artificial fill. Below this fill there is a section of soil that we estimate is between 4,600 and 10,000 years old. Caving conditions precluded us from trenching deeper in this area. Although we did not see any faults or fractures in this southernmost area, the soils did thicken across the most severe caving zone. Therefore, although unlikely, we cannot preclude the possibility that there may be a Holocene fault in this area. Therefore, we recommend that the gymnasium be built north of this zone, in the area where the basketball courts are presently located. We also recommend that the gymnasium be setback a minimum of 25 feet from the eastward projection of the northern end of the trench because, although not indicated by aerial photographs or the geomorphology, we cannot preclude that a fault occurs just north of the area trenched.

Although no active faults have been identified in the northern portion of the area trenched, an active trace of the Sierra Madre fault has been identified by others near the northern boundary of the park site. Therefore, given its location relative to the park, the Sierra Madre fault has the potential of generating high ground accelerations at the site. Since a gymnasium is considered a high-occupancy structure, it should be designed so that it can withstand high ground accelerations.

Thank you for the opportunity to assist you on this project. Should you have any questions regarding the information contained in our report, please do not hesitate to contact us.

Respectfully submitted,

EARTH CONSULTANTS INTERNATIONAL, INC.

Tania Gonzalez, CEG 1859
Project Consultant

Distribution: (2) Addressee
(2) Gil Garcia, Los Angeles Department of Public Works
(1) Phil Buchiarelli, Leighton and Associates, Inc.

CPW/TKG

TABLE OF CONTENTS

1.0 INTRODUCTION

This report presents the results of a fault trenching study conducted by Earth Consultants International, Inc. (ECI) for the site located northeast of the intersection of Lincoln Avenue and Loma Alta Drive, in the Altadena area of unincorporated Los Angeles County, California (Figure 1). The site is presently occupied by the Loma Alta Regional Park, which is managed by the Los Angeles County Department of Parks and Recreation. A gymnasium is proposed to be built on the park property. Since a gymnasium is a high-occupancy facility, and an active trace of the Sierra Madre fault has been located just north of the park's parking lot, it was recommended that a trenching study be conducted to evaluate whether active faults extended through the area where the gymnasium is proposed.

Although the site is not located within the boundaries of an Alquist-Priolo earthquake fault zone (Hart and Bryant, 1997), several lineaments interpreted from an aerial photo review of the site vicinity project across primarily the northern portion of the site. The primary objective of our study was to evaluate whether these lineaments are caused by faults. Then, if faults were exposed during the field portion of the study, we were to evaluate, if possible, the recency of activity of the faults. The State of California classifies a fault as active if it has moved during the last 11,000 years.

1.1 Purpose of the Study

The purpose of the study was threefold:

- Determine whether faults underlie areas where the gymnasium is proposed;
- Evaluate the age of the geologic units encountered to assess whether Holocene-aged deposits or surfaces are faulted or not; and
- If faults are identified, evaluate the potential for future fault displacement, and provide specific recommendations for mitigation, as warranted.

1.2 Scope of Work

The tasks that we completed as part of the study are itemized below. Where a given task was performed by a subcontractor, the subcontractor is identified in *italics*.

1) Researched and reviewed available information regarding the site and vicinity, including vintage aerial photographs and published and unpublished geologic maps of the area. References reviewed are listed in Appendix A;
2) Met with representatives of the Los Angeles County Department of Public Works and County of Los Angeles Department of Parks and Recreation at Loma Alta Park to discuss project;
3) Marked the proposed trenching location and notified Underground Services Alert to locate the utilities, if any, beneath the proposed location;
4) Marked electric lines using a pipe and wire finder instrument and marked out irrigation laterals according to plans of the park provided by Los Angeles County Department of Public Works;
5) Submitted a trench notification form to Cal-OSHA;
6) Installed an 8-foot high, 900-foot long perimeter fence around the trench site (*National Rent-A-Fence*);

7) Excavated and shored one trench approximately 370 feet long and 9 to 16 feet deep. The excavation was subcontracted to *Reliable Equipment Rental, Inc*. The shores were rented from *Trench Shoring Company*. On nights and one weekend, we covered the trench with 6x12-foot chain-link panels rented from *National Rent-A-Fence*;

8) Conducted laboratory tests to determine the maximum dry density and optimum moisture content of the excavated soils to be used for back fill. This task was conducted by *Teratest*, our affiliated soil-testing company;

9) Cleaned, logged (at a scale of 1 inch = 5 feet), and photographed the east wall of the trench, and a portion of the west wall. The trench logs are included in Appendix B;

10) Removed the shores and backfilled the excavation with the soils excavated onsite (the backfilling was completed by *Reliable Equipment Rental, Inc*.). The soils were placed back at a minimum 90 percent relative compaction. Observation and testing were conducted by our affiliate *Leighton and Associates, Inc*. (Leighton). A backfilling report will be submitted by Leighton under separate cover;

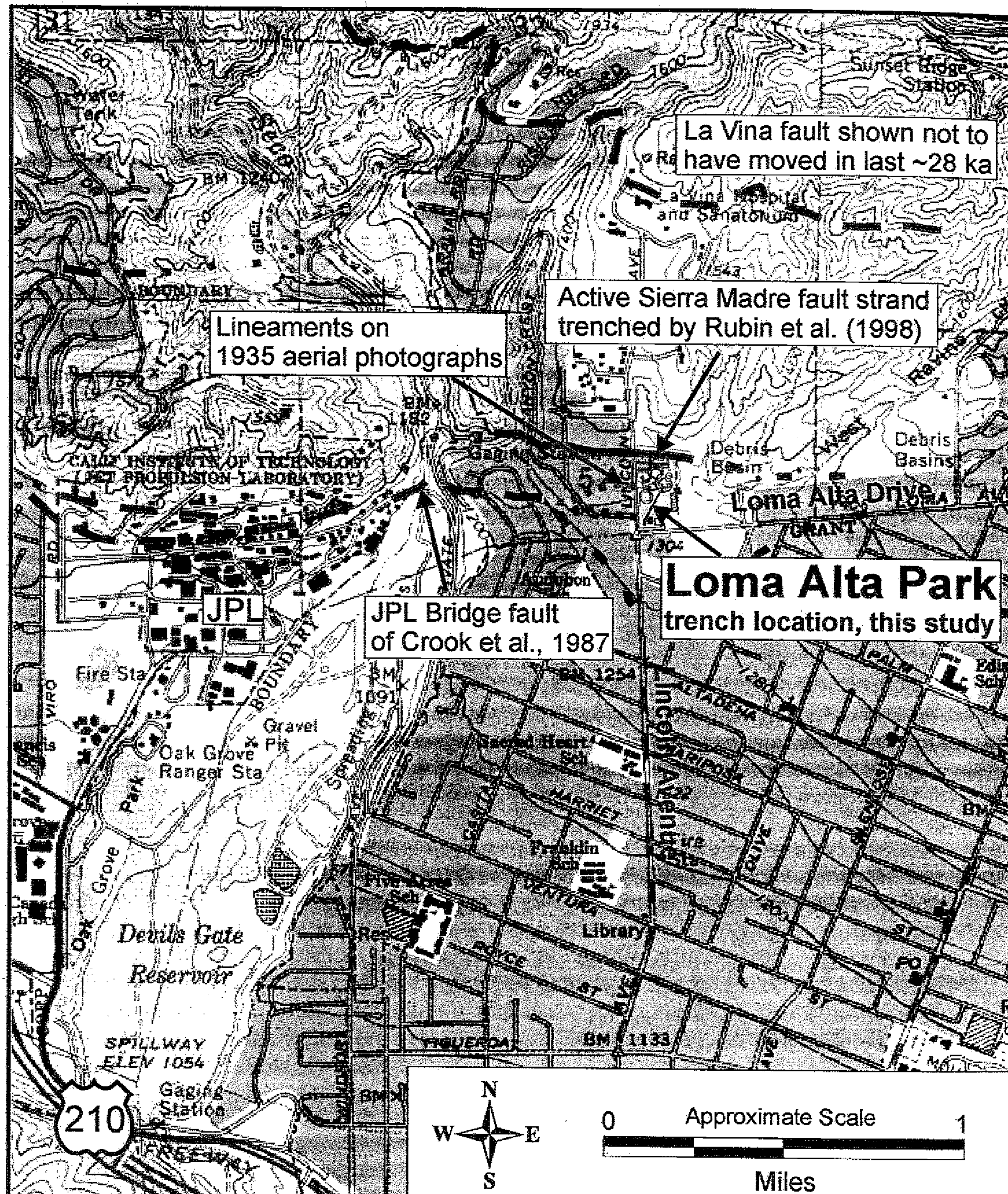
11) Fine grading of the site was completed by *Supernatural Landscape*;

12) Repaired damaged security light wires, ball field light wires, irrigation laterals and a domestic water line (*Supernatural Landscape*);

13) Replaced severely damaged areas of lawn with seed or new sod (*Supernatural Landscape*) – PENDING APPROVAL;

14) Analyzed the office and field data, and

15) Prepared this report summarizing our findings, conclusions and recommendations.



Earth Consultants International

ECI Project No: 998100-003
L&A Project No: 990002-002
Date: 8/25/99

Site Location Map
Loma Alta Park
Altadena Area, California

Base Map: USGS Topographic Map, Pasadena, California 7 ½ minute Quadrangle.

Figure 1

2.0 BACKGROUND ANALYSIS

2.1 Regional Geologic and Seismotectonic Setting

In southern California, approximately 50 mm/yr of dextral shear are accommodated across the broad Pacific-North American plate margin (DeMets, 1995). The faults that comprise the plate margin are collectively called the San Andreas Fault System. The Los Angeles metropolitan region lies within this fractured margin, at a transitional zone where predominantly strike-slip rigid-block tectonics to the south give way to east-west-trending folding and contractional faulting within the Transverse Ranges to the north (Walls and others, 1998) (Figure 2). The study area lies along the Sierra Madre-Cucamonga fault zone, which represents the frontal fault system of the San Gabriel Mountains in the central Transverse Ranges, and forms the northern boundary of the Los Angeles metropolitan region.

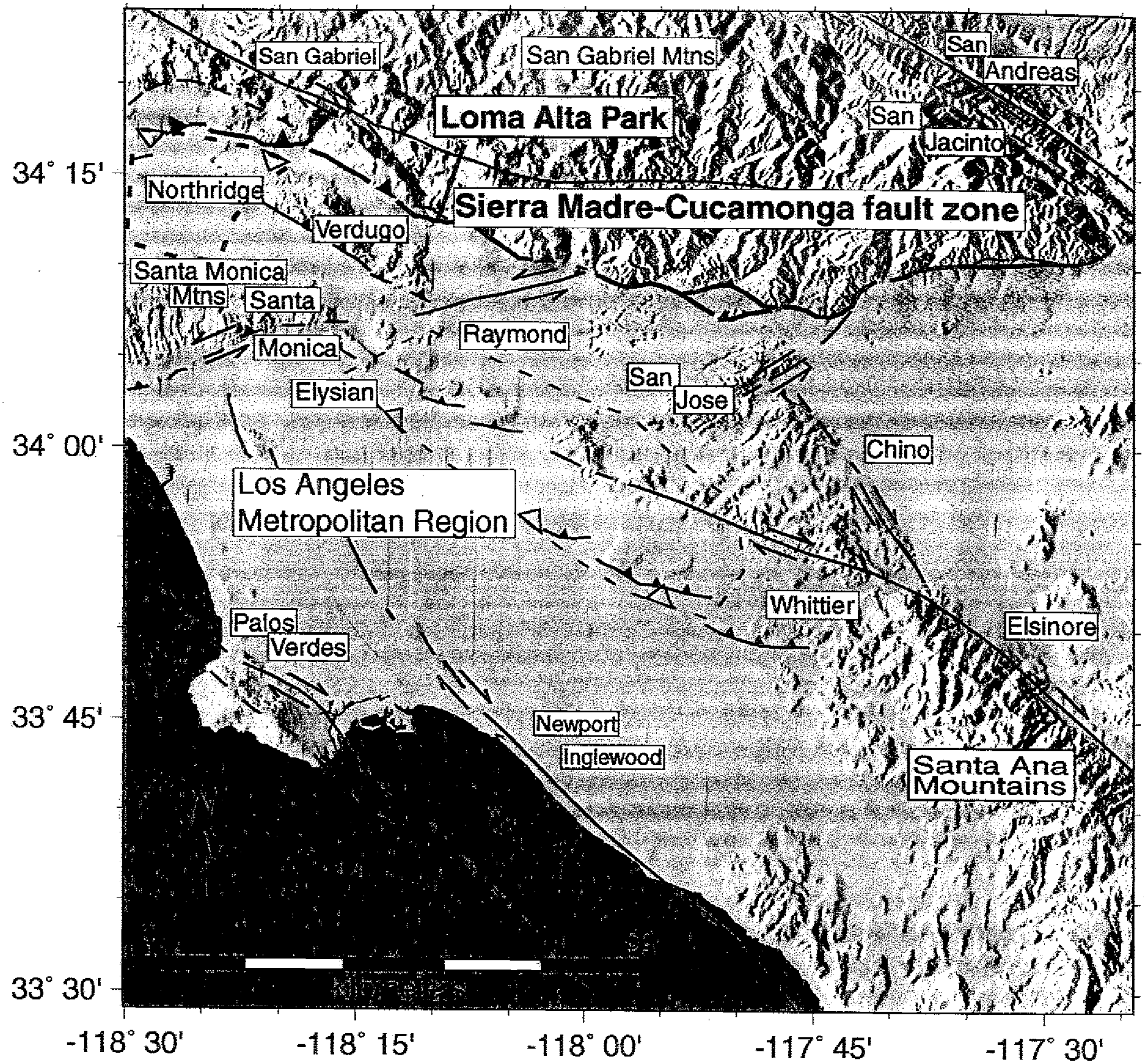
The Sierra Madre-Cucamonga fault zone is a 60-mile-long complex of structurally related, north-dipping thrust and reverse faults between the San Fernando Valley to the west and Cajon Pass to the east (Crook and others, 1987). West of the San Fernando Valley, contraction is accommodated on the Santa Susana and Oak Ridge fault systems (Yeats and Huftile, 1995). Near Cajon Pass, the Cucamonga fault terminates as the strain is accommodated by strike-slip motion along the San Jacinto and San Andreas faults. The San Gabriel Mountains are bound on the north by the transpressional 'Big Bend' region of the San Andreas fault, and on the south by the Sierra Madre-Cucamonga fault zone, where thrust faulting accommodates a component of the regional contraction. Cumulative uplift has resulted in the exhumation of rocks from depths of 15 to 20 km (Ehlig, 1975), 4-8 km of which has occurred in the past ~3 million years (Blythe and others, 1999). Quaternary throw is estimated at 4 km in the Sylmar area, near the western end of the fault zone (Crook et. al., 1987) and may be significantly greater along the Cucamonga fault. Along several segments of the Sierra Madre-Cucamonga fault zone, faulting has migrated southward, creating younger range front faults and older, internal front faults. Thrust faults within the range have lesser amounts of recent slip but have greater magnitudes of Quaternary uplift (Bull, 1978; Morton and Matti, 1987). This is the case in Altadena, where active faulting migrated south from the La Viña property to the vicinity of Loma Alta Park sometime between about 15,000 and 28,000 years ago.

2.1 Local Faulting

In the Gould Canyon-Arroyo Seco area at the base of the San Gabriel Mountains in Pasadena, the Sierra Madre fault zone has been mapped as a series of east-west trending subparallel faults that spread over a 2-km wide area (see Figure 1). Many of these faults were trenched as part of Crook and others (1987) study, and found not to have displaced Holocene (11,000 years old and younger) sediments. The fault that extends across the northern end of Loma Alta Park was identified by Crook and others (1987) as a distinct scarp that forms the contact between their Qal4 (older alluvium) and Qal3 (younger alluvium). Crook and others (1987) were able to trace this fault westward to Millard Canyon where it may merge with the JPL Bridge fault that crosses through the Jet Propulsion Laboratories, but traced it eastward for a distance of only about 0.5 km. Although Crook and others (1987) conducted an extensive review of vintage aerial photographs, and trenched several exposures, these researchers were not able to identify any fault scarps or displaced strata in Holocene units that would indicate where the active branch of the Sierra Madre fault zone is located in the Pasadena-Altadena area.

To the north, above Loma Alta Park in the La Viña property, Leighton (1992a, 1992b) conducted a comprehensive fault investigation for a housing project. During the study, several faults were exposed and were proven to be not active based on contact relationships and radiocarbon dating of charcoal samples. The main range front fault which forms the boundary between the crystalline bedrock in the San Gabriel mountains and the alluvial fan deposits was shown not have moved in the last approximately 28,000 years (Rockwell and Bornyasz, unpublished radiocarbon date for material collected in trench FT-58 for the La Viña project, within the unfaulted section).

In 1995, Rubin and others (1998) excavated a 45-foot long and 16-foot deep trench at the northernmost end of Loma Alta Park, north of the parking lot and west of the pool. The trench was excavated across the topographic rise identified by Crook and others (1987) which is approximately 345 feet north-northwest of the trench in our study. The 1995 investigation documented that this section of the Sierra Madre-Cucamonga fault zone has produced large earthquakes twice in the last 15,000 years. The last earthquake, of estimated magnitude 7.2 to 7.6, produced more than 13 feet (4 meters) of displacement. Below the fault, near the base of the 1995 trench, Rubin and others (1998) found a buried soil with an A-weakly developed Bt-C profile. Detrital charcoal in the buried A horizon yielded ^{14}C ages of between 16,000 and 24,000 years before present.



Earth Consultants International

ECI Project No: 998100-003
L&A Project No: 990002-002
Date 8/25/99

Fault Map of the Los Angeles Metropolitan Region
Loma Alta Park
Altadena Area, California

Figure 2

3.0 METHODOLOGY

3.1 Review of Vintage Aerial Photos and Maps

We analyzed a 1928 U.S. Geological Survey 5-foot-contour interval topographic map, and 1935 Fairchild Collection and 1952 U.S. Department of Agriculture aerial photographs of the vicinity of Loma Alta Park on file at ECI. The 1935 black-and-white stereo-paired photographs (1:7,800 scale) show that the park site was a gently south-sloping plowed field, bordered on the north by a distinct east-west trending topographic rise, on the east by West Ravine, on the south by Loma Alta Drive, and on the west by Lincoln Avenue. This topographic rise is also evident on the 1928 topographic map. A fault investigation in 1995 (Rubin and others, 1998) confirmed the presence of an active strand of the Sierra Madre fault along the scarp at the north end of the property.

In the northern half of the park, approximately 270 to 325 feet south of the fault investigated in 1995, a sinuous low topographic rise trends east-west across the property, paralleling the main fault scarp. On the aerial photographs this lineament appears as a broad 30- to 60-foot wide, 3- to 5-foot high scarp. Since the lineament is orthogonal to local drainages, and also parallels the main fault, we considered it likely to be of tectonic origin. This feature, referred to as "northern lineament" on Figure 3, was interpreted to coincide approximately with the scarp currently located between the athletic field and the northern half of the park. We also reviewed the Loma Alta Park as-built maps you provided us that show the topography before and after grading of the park. The before-construction contour lines indicate that there was a scarp (or rise) south of the existing rise. It appeared from the map that this scarp had been modified and cut into during construction, to form the present scarp along the northern reaches of the trench excavated for this study. Therefore, the feature in question would extend into the northern section of the existing basketball courts, the preferred location for the proposed gymnasium. Hence the reason to start the trench near the top of the modified scarp and extend the trench southward, in anticipation of intersecting the causative structure.

In the 1935 photos it appears that the southern end of the property had been partially leveled to fill in a subtle west-northwest trending topographic rise ("southern lineament" on Figure 3). From the photographs it is unclear whether this rise is tectonic or fluvial in origin, although the feature does project onto a small channel that forms a tributary to West Ravine, below the existing debris basin. Nonetheless, this feature was considered suspect due to its close proximity to a known active fault. Based on the northern and southern lineaments observed in the 1935 aerial photographs, we proposed to trench along the entire length of the athletic field.

In the 1952 photos, the park property appears to be an open field with several trees. Disturbance to the alluvial surface had been sufficient by 1952 to obscure the northern, low sinuous topographic rise viewed on the 1935 aerial photographs. The south end of park property had been modified further, but had not been filled extensively. A debris basin called Lincoln Dam was constructed in West Ravine by 1952. It appears that part of the material excavated to construct the basin was placed along the eastern margin of the park property, and also between Loma Alta Drive and Lincoln Dam.

3.2 Trenching and Logging

One trench approximately 370 feet long, 9 to 16 feet deep, and 2.5 to 13 feet wide was excavated across the athletic field on the southern half of Loma Alta Park. The trench is referred to as Trench T-1 and the log of the eastern wall of the trench is included in Appendix B (Plates B-1 through B-3). The trench was excavated using a rubber-tire backhoe capable of digging to a depth of about 16 feet. A 36-inch bucket was used for the northern 70 feet of the trench, and a 24-inch bucket was used for the remaining 300 feet of the trench. Unconsolidated artificial fill varied from ~3 feet in the north to 12 feet at the south end of the trench. The artificial fill was highly unstable and caused numerous cave-ins that widened the trench 1 to 7 feet at various sections along the trench. To minimize trench-wall collapse, when possible, shoring was installed as soon as the backhoe was out of range. Substantial caving in sections of the north-central and central portions of the trench effectively doubled the amount of material that had to be removed. In the southern 125 feet of the trench, the artificial fill in the upper 6 to 12 feet was so unstable it required double-benching on both sides of the trench to achieve stability. This tripled the amount of excavated material in this area. In total, the amount of material excavated was approximately double the amount originally anticipated.

The trench was shored in accordance with Cal-OSHA guidelines. Once shored, the east wall was brushed, then blown with a leaf blower, to remove smears left behind by the backhoe's bucket. A level line was placed on the east wall of the trench using string and nails. Then, with spray paint, we marked stations at 5-foot intervals directly on the trench wall, adjacent to the level line. To prepare a graphic log of the trench, we measured from this level line to the contacts between stratigraphic units, the top and bottom of the trench, and other pertinent features. Laterally continuous, discrete sedimentary beds or lenses, soil horizons and large animal burrows (krotovina) were marked on the trench wall with spray paint, and then plotted on the log at a scale of 1 inch equals 5 feet. Relevant utility lines that extended across the trench were also located and identified as to the size and type of pipe.

After cleaning and logging, the trench was photographed with a high-resolution digital camera. The trench location was surveyed using a Brunton compass and tape measure using existing structures as reference points (Figure 3). Widths of the trench were documented at several stations along the excavation.

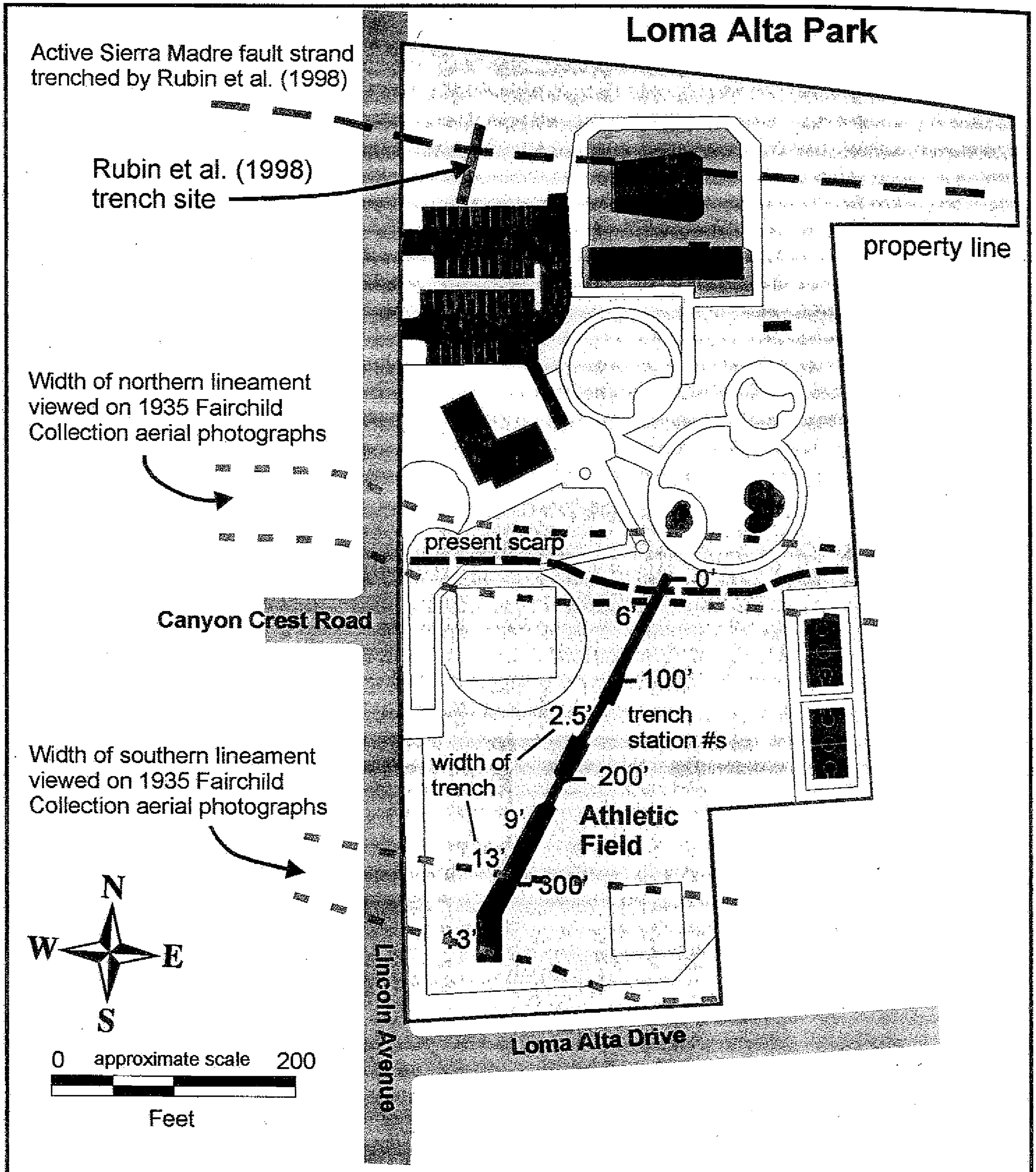
The trench was reviewed by Mr. Steven Lipshie of the Los Angeles County Department of Public Works on July 28, 1999. He walked the entire length of the trench and looked at the various stratigraphic units that we identified during the logging process. He concurred that there were no unusual breaks in the stratigraphy that would indicate faulting.

3.3 Dating Methods

The soils and sediments exposed in the trench were described according to the characteristics and nomenclature set forth by the Soil Survey Staff (1975, 1992) and Birkeland (1984). Colors of the soil horizons and parent material were described using the Munsell Soil Color Chart (1954). We looked at the amount and thickness of translocated clay and silt, the presence of clay films or stains on clasts, the color of the soils, the looseness or induration of the sediments, among other characteristics, to evaluate whether the near-surface soils are Holocene or pre-Holocene in age.

The formational materials were also described carefully, with emphasis on the grain size, roundness and lithology of the clasts. We also described the degree of weathering of the clasts in each stratigraphic layer, to compare them with the clast weathering stages described by McFadden (1982). This provided us with additional data from which to estimate the relative age of the units at various depths in the trench.

Organic-rich materials such as detrital charcoal, suitable for radiocarbon dating were not observed in the trench, although we looked carefully. The few samples that we did find were either associated with the Ap/Afu horizon (plowed A or artificial fill) or with animal burrows (krotovina), and are therefore not reliable for age dating.



Map drafted from 1988 Loma Alta Park Ballfield Renovation Location Map

Earth Consultants International

ECI Project No: 998100-003
L&A Project No: 990002-002
Date: 8/25/99

Trench Location Map
Loma Alta Park
Altadena Area, California

Figure 3

4.0 FINDINGS

4.1 Geologic Units

The sediments exposed in the trench consist of alluvial and alluvial fan deposits, as well as near-surface and buried soils developed in the stratified geologic units. From youngest (top) to oldest (bottom), the soils exposed in the trench include a modern Ap/Afu-AB-Bw-C soil, a Coxb (buried) horizon, and a Btjb2 (second buried) horizon. The modern soil was covered with artificial fill, possibly in the 1950s (refer to section 3.1). The units are described further below.

4.1.1 Artificial Fill (Afu in the trench log)

Artificial fill was observed near the top of the trench, directly beneath the sod, and overlying the uppermost native soil. The fill varies in thickness from ~3 feet in the northern part of the athletic field to 12 feet thick in the southern part of the playing field, near Loma Alta Drive. The fill consists of one to several layers of imported soil and/or disturbed native soil consisting primarily of sand, silt and clay with minor amounts of gravel- to cobble-sized clasts. Artificial fill was also observed around buried utility conduits.

4.1.2 Alluvial Deposits

The alluvial stratigraphy is characterized by massive to well-bedded layers of subrounded to rounded clasts ranging in size from sand to boulders approximately 3 feet in diameter. The layers typically fine upward, with clast-supported boulders and cobbles comprising the basal part of the beds, and matrix- to clast-supported pebbles and cobbles in the upper part of the beds. Massive to well-stratified fining-upward sequences of sand and gravel lenses were exposed locally in the northern 225 feet of the trench. The lenses are between 1 and 16 feet long and generally less than 2-feet thick. The C soil horizon in the modern soil profile (see Section 4.2 below) is typically associated with these sand and gravel lenses.

The alluvial deposits locally occur as a series of nested fills that are incised successively into each other, the result of several alternating periods of erosion and deposition. Hiatuses in between these depositional and erosional periods are indicated by remnants of two buried soils within the alluvial sequence. The truncated buried soils indicate that there were periods of stability that allowed for the formation of soil horizons. The upper portion of each of the buried soil profiles was removed by erosion prior to deposition of the overlying layers.

Clasts in the alluvium are largely granitic and mafic crystalline rocks of pre-Cambrian and Permian-Triassic age. Most clasts are dioritic and granitic in composition, although scattered clasts of gneiss, schist and quartzite were also observed. All of these rock compositions have been described in the San Gabriel Mountains, north of the site (Ehlig, 1975; Crook and others, 1987).

4.1.3 Soils

Two soil profiles were described in the northern half of the trench; one at station 0+04 and another at station 1+90. These profiles were described where the trench was deepest, to obtain the most complete profile possible. The soil profiles described are representative of the soils observed elsewhere in the trench. For the soil profile locations, refer to the trench log of T-1, Plates B-1 and B-2 in Appendix B. Detailed soil descriptions are included in Appendix C, and age estimates based on the degree of soil development are described in section 4.2, and shown on Charts 1 and 2 in Appendix C.

At station 0+04, near the northern end of the trench, three soils were identified vertically along the trench wall. These soils consist of a near-surface soil and two buried and truncated soils (see Profile 1, Plate B-1 in Appendix B). The upper, near-surface soil has an Ap/Afu-AB-Bw-C profile. The buried truncated soils are characterized by a Cox and a Btj horizon, respectively. The overlying A and (possibly) B soil horizons in these buried soils were presumably eroded prior to deposition of the younger alluvial deposits in which the upper, more recent soils were developed.

The upper Bw and buried Btj horizons are characterized by a slightly redder color than that of the unweathered alluvium (10YR rather than 2.5Y using the Munsell color notation). Incipient films of pedogenic clay and/or silt were observed in varying amounts on the surface of clasts within the buried Btj horizon. The Btj horizon was exposed along the bottom of the trench from Stations 0+00 to 1+90, except where a large cave-in occurred between stations 0+95 and 1+07.

In the central portion of the trench, at station 1+90, the surface soil has an Ap/Afu-AB-Bw-BC profile and the two buried truncated soils are indicated by a Cox horizon and a Bw/Btj horizon, respectively (see Profile 2, Plate B-2 in Appendix B). As in the soil profile described above, the upper Bw and buried Bw/Btj horizons in these buried soils define the degree of development for each. The color of these soils is best described in the 10YR hue. The structure of these horizons is typically massive breaking to weak fine to medium subangular blocky or granular in the upper horizons, and massive single-grained in the lower horizons.

Although the Btj horizon is less developed that the buried weak Bt soil horizon exposed in Rubin and others' (1998) trench, the two soils may be correlative. Both horizons developed in coarse sands containing cobbles and boulders, and are present at similar depths below the modern soil. The degree of clast decomposition in the two soils is similar.

4.2 Age Estimates

In fault trenching studies, it is critical to understand the age of the deposits that are being investigated. In this study, the most significant question regarding the age of the units is whether we exposed sediments that are old enough (ideally more than 11,000 years old) to be able to conclude that no faults have ruptured these sediments within the Holocene. If the sediments range in age from Holocene near the surface to late Pleistocene at depth, and no faults are exposed, then we have shown by direct geologic methods that no active faults extend across this portion of the site.

Organic materials suitable for radiometric dating were not encountered in the trench. Therefore, to estimate the age of the sediments exposed, we have used soil-stratigraphic techniques. The profile descriptions (Appendix C) were used to determine the degree of development of the soils exposed in the trench. For comparative purposes, index values based on the characteristics of each horizon were calculated (Tables 1 and 2, Appendix C). Soil Development Index (SDI) values were calculated based on a modified version of the Harden (1982) index, and the Maximum Horizon Index (MHI) of Ponti (1985). The horizon index value is a depth- and thickness-independent value calculated for each horizon. The highest of these values for a soil profile is the maximum horizon index value or MHI (Ponti, 1985). To estimate the age of the soils at the site, we compared the SDI and MHI values calculated for these soils with the SDI and MHI values calculated for other soils in the region developed under similar conditions that have been dated by absolute methods (Charts 1 and 2, Appendix C).

The cambic (Bw) and incipient ("juvenile") argillic (Btj) horizons define the degree of soil development evident in these soils. Index values were calculated for the modern soil, and for each buried soil in the profile. Since the buried soils were truncated (that is, are missing the A and AB-Bw horizons), the SDI values for these soils were estimated by assuming that the upper horizons which are now missing were similar to the horizons observed in the modern soil. The age estimates from the MHIs of the Coxb are not included in the estimated profile age because the diagnostic B horizon is assumed to be truncated. The index values calculated for these soils are shown below and in Tables 1 and 2 (Appendix C).

Profile		SDI	MHI	Profiles 1&2	Mean Age
Soil Profile 1	Modern Soil	20.8	0.18	Modern Soil	10,065 years
@ Station 0+04	First Buried Soil	19.8	0.01	First Buried Soil	10,468 years
	Second Buried Soil	24.5	0.21	Second Buried Soil	10,620 years
				Sum of Mean Ages	31,200 years (rounded)
Soil Profile 2	Modern Soil	21.6	0.20		
@ Station 1+90	First Buried Soil	26.1	0.06		
	Second Buried Soil	22.7	0.22		

To estimate a minimum age for the profiles that include buried horizons, we need to stack (or add) the age estimate for each separate soil described within that profile. For this analysis we averaged the age estimates obtained for Profiles 1 and 2. Using the SDI age estimates, the average minimum age for Profiles 1 and 2 is approximately 14,600 years, and the mean age is estimated at approximately 31,200 years. The MHIs consistently resolved into lower ages than the SDIs. The 95 percent confidence intervals for these predicted values are shown on Charts 1 and 2 (Appendix C).

The buried soil in Rubin and others (1998) trench yielded an SDI value of 20.1 and an MHI value of 0.27 for the Bt, similar to the values we calculated for the Btjb2 in this study. Detrital charcoal in the buried A horizon above the Bt soil horizon of Rubin and others (1998) yielded radiocarbon ages of 16,175 and 24,360 years. The 24,000-year date may represent recycling of detrital charcoal from older alluvial deposits exposed uphill and north of the study area. Both the soil exposed in Rubin and others trench and the buried soil exposed in the trench of this study developed in coarse sands containing cobbles and boulders, and are located at similar depths below the modern soil. The degree of clast decomposition is also similar in both soils. [The clasts made a dull sound when struck with a hammer, had moderately thick to thick oxidation rinds, and were easily broken by hand (McFadden's Stages 3 and 4)]. Given the similar characteristics of the two buried soils, it is likely that they developed on the same surface. The radiocarbon ages from Rubin and others study are also within the age estimate ranges presented above obtained using soil stratigraphic techniques.

Using the soil age estimates presented above, the sediments exposed at depth in the northern portion of the trench (between stations 0+00 and 1+90) appear to be late Pleistocene in age. This age is also supported by the degree of clast decomposition observed in this soil, based on McFadden's (1982) clast weathering stages. The sediments near the bottom of the trench between stations 1+90 and 2+75, where the Btjb2 soil horizon was not exposed, are early Holocene to late Pleistocene in age based on soil-stratigraphic techniques. The minimum age for this soil is estimated at 9,500 years, while the median age of the soil is 20,500 years. In the southern portion of the trench, between stations 2+75 and 3+60, where only the upper horizons of the upper soil were exposed, the bottom soil horizon is estimated to be middle to early Holocene in age (4,600 to 10,000 years old).

4.3 Faults and Fractures

No faults or fractures were observed in the trench, indicating that the alluvial sediments exposed have not been faulted, at least not within the depth of the trench. Stratigraphic markers that we used to evaluate the presence or absence of vertical displacements include primary bedding contacts, soil horizon contacts, and internal bedding (where present within the units). The stratigraphy exposed in the trench is generally flat-lying with a slight dip to the south, consistent with the natural sloping character of the site prior to grading. The various stratigraphic markers exposed in the trench were laterally continuous and unbroken, indicating that no significant Holocene faults extend through at least the northern area of the trench.

Near station 3+00 the soils dip to the south over a relatively short lateral distance at a higher gradient than in the rest of the trench. We did not observe fractures or discrete breaks through the units that would indicate faulting, but the sudden change in elevation of these units is suspect. Similar relationships could occur in the cross-sectional view of a buried channel. In any other trench we would have excavated deeper across the area to gain a better understanding of whether the units are folded, faulted, or eroded out. However, this area of trench was only marginally safe, and would have caved-in if we would have tried to excavate it further. Therefore, in this area, between stations 2+80 and 3+10, we cannot preclude the possibility that a fault may occur at depth.

5.0 CONCLUSIONS AND RECOMMENDATIONS

A substantial amount of data regarding the potential for surface faulting have been obtained in the vicinity of the site over the course of several investigations conducted since 1992. We have reviewed and revisited readily available reports prepared by us and previous investigators, and conducted a detailed field investigation to evaluate the potential for surface faulting at the site. Based on these data we can summarize the following:

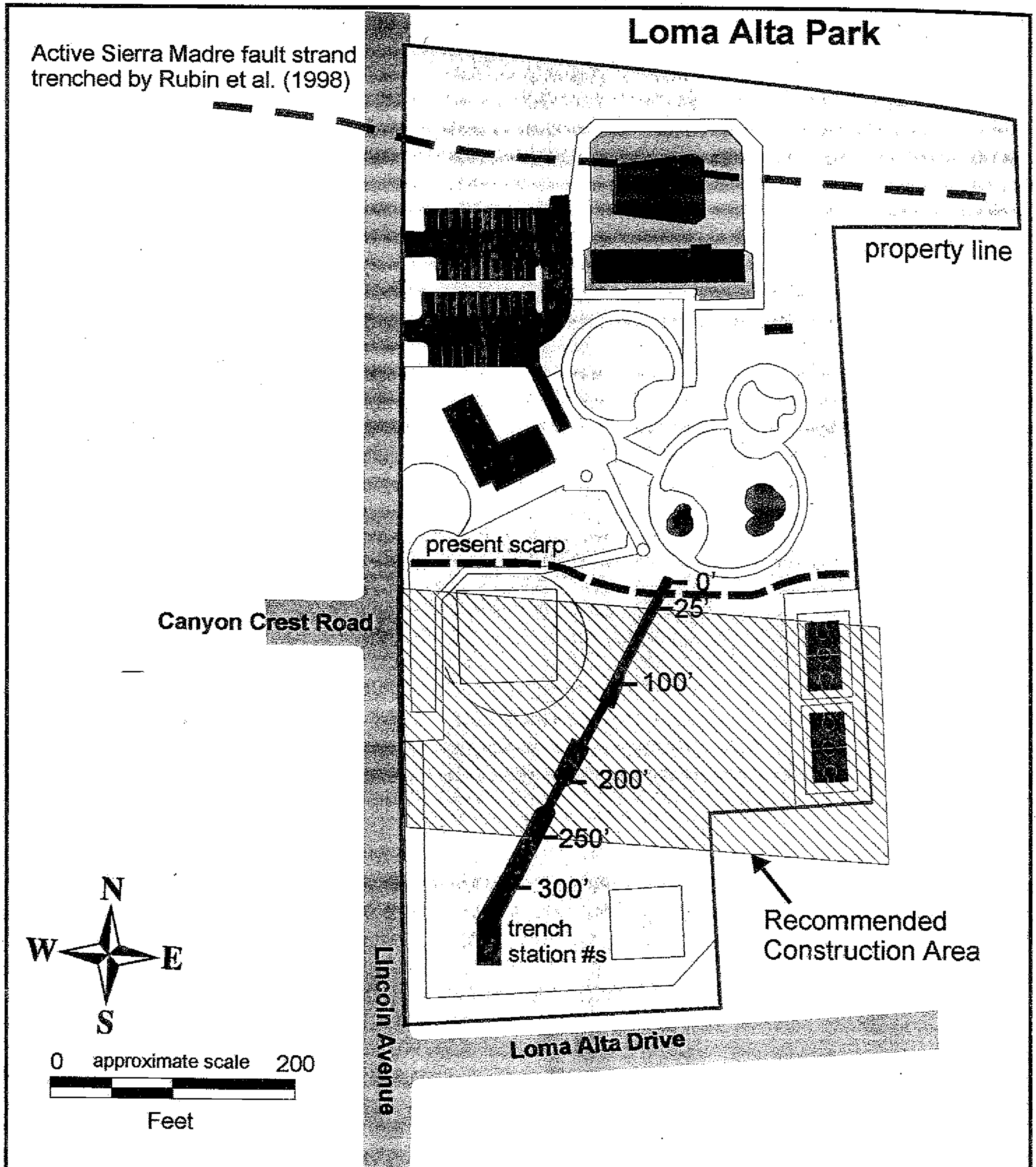
- An active trace of the Sierra Madre fault has been identified in the project vicinity, approximately 325 feet north of the area where the gymnasium is proposed. This trace of the Sierra Madre fault has ruptured at least twice in the last 15,000 years, with more that 13 feet of slip during the last event. The fault is thought capable of generating magnitude 7.2 to 7.6 earthquakes that would generate strong ground motions at the site.
- No evidence for surface or near-surface fault rupture was observed in the trench exposure. Relatively well-defined, laterally semi-continuous layers in the alluvial deposits were not broken or truncated.
- The alluvial sediments exposed near the bottom of the trench, between stations 0+00 and 1+90, are estimated to be, at a minimum, late Pleistocene in age. The alluvial sediments exposed near the bottom of the trench, between stations 1+90 and 2+75, are estimated to be early Holocene to late Pleistocene. Between stations 2+75 and 3+60 the alluvial stratigraphy is estimated to be middle to early Holocene. These age estimates are based on soil development indices for stacked soils exposed in the trench, clast weathering stages, and comparison with similar dated soils exposed in a trench approximately 325 feet north of the site. [Organic materials suitable for radiocarbon dating were not observed in the trench of this study.]

5.1 Conclusions

- Since these sediments were not faulted, we conclude that there have been no Holocene surface-rupturing earthquakes in the northern area trenched.
- Therefore, the hazard of surface fault rupture at the site, at least in the northern 275 feet of the area trenched, is considered low.

5.2 Recommendations

- Structural setbacks to mitigate the hazard of surface fault rupture are NOT recommended for the northern and central portion of the site where this study was conducted.
- Although we did not see any faults or fractures in the southern area, the soils did thicken across the most severe caving zone between stations 2+75 and 3+10. Therefore, although unlikely, we cannot preclude the possibility that there may be a fault in this area. We recommend that the gymnasium be built north of this zone, near the northern area of the trench, where pre-Holocene unfaulted sediments were observed (See Figure 4).
- We also recommend that the gymnasium be setback a minimum of 25 feet from the eastward projection of the north end of the trench. This recommendation is made because, although not indicated by the aerial photographs or the geomorphology, we cannot preclude the possibility that a fault may occur north of the area trenched. A similar setback is proposed for the southern end of the trench, near Station 2+75, where we were not able to conclusively demonstrate the occurrence of unfaulted Late Pleistocene sediments (See Figure 4).



Map drafted from 1988 Loma Alta Park Ballfield Renovation Location Map

Earth Consultants International

ECI Project No: 998100-003
L&A Project No: 990002-002
Date: 8/25/99

Recommended Construction Area
Loma Alta Park
Altadena Area, California

Figure 4

APPENDIX A
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Aerial Photographs Reviewed

Date	Flight No.	Frame Nos.	Source	Scale
11/8/1935	C-3758	5,6	Fairchild Collection	1:7,800
8/15/1952	GS-VP-23	6,7	USDA	1:20,000

APPENDIX B
Trench Logs

APPENDIX B

GENERALIZED DESCRIPTION OF UNITS FOR PLATES B-1, B-2, B-3

CULTURAL UNIT:

Artificial Fill (Afu): Mixed soil native and imported, abrupt and smooth to wavy lower boundary.

SOILS DEVELOPED IN ALLUVIUM:

Ap/Afu Soil Horizon (Ap/Afu): mixed and re-worked artificial fill and tilled soil A horizon, LOAMY SAND to SANDY LOAM, very dark grayish brown (10YR 3/2) when moist, weak fine granular structure, soft when dry, very friable when moist, nonsticky and nonplastic when wet, no clay films, clear and wavy boundary within the underlying horizon.

AB Soil Horizon (AB): Gravelly and Cobbly SANDY LOAM to LOAMY SAND, grayish brown (10YR 4/2) to yellowish brown mixed color (10YR 5/6) when moist, massive breaking to weak, very fine to medium granular structure, soft when dry, very friable when moist, nonsticky and nonplastic when wet, no clay films, clear and wavy boundary with the underlying horizon.

Bw Soil Horizon (Bw): Very Gravelly and Cobbly LOAMY SAND, yellowish brown mixed color (10YR 5/6) when moist, single grain structure, loose when dry and moist, nonsticky and nonplastic when wet, no clay films, gradual and wavy boundary with the underlying horizon.

C Soil Horizon (C): Very Gravelly SAND, pale brown mixed color (10YR 6/3) when moist, single grain structure, loose when dry and moist, nonsticky and nonplastic when wet, no clay films, gradual and wavy to smooth boundary with the underlying horizon.

Coxb Soil Horizon (Cox): Very Gravelly SAND, light brownish gray mixed color (10YR 6/2) to yellowish brown (10YR 5/6) when moist, single grain structure, loose when dry and moist, nonsticky and nonplastic when wet, no clay films, some weathered mafic and felsic diorite clasts, gradual to clear and wavy boundary with the underlying horizon.

Bwb/Btjb2 Soil Horizon (Bw/Btjb): Cobbly SANDY LOAM, yellowish brown (10YR 5/6-5/4) when moist, massive breaking to weak, fine subangular blocky, soft when dry, very friable when moist, nonsticky and nonplastic when wet, no clay films, cobbles, many weathered to stages S3 and S4 surrounded silty sand matrix.

LEGEND FOR PLATES B-1, B-2 and B-3

Key To Symbols Used In Trench Log

——	Abrupt lower soil boundary where transition is approximately less than 2 cm.
IIIIII	Clear lower soil boundary where transition is approximately 2 to 5 cm thick.
IIIIIII	Gradual lower soil boundary where transition is approximately 5 to 15 cm thick.
II?III	Diffuse lower soil boundary where transition is greater than 15 cm thick.
	Gravel/Pebble/Sand Lens- typically unaltered, and mostly found within the C horizon or very near its boundary.
	Quartz diorite, leucocratic granite, and gneiss clasts derived from San Gabriel Mountains.
	Weathered Clast

<u>Clast Weathering Stages (McFadden, 1982)</u>

S1- Rock essentially unweathered except minor surface pitting or incipient oxidation rinds; rings sharply to blow of hammer.

S2- Rock is slightly weathered, characterized by moderate surface pitting, fracturing, and moderately thick (> 1-2 mm) oxidation rings; "moderate" ring to blow of hammer.

S3- Rock substantially weathered, surface highly pitted and strongly fractured; moderate thick oxidation rinds and many mafic minerals and some feldspar grains may be strongly altered. The rock can be broken with difficulty by hand and has a "dull" sound to the blow of a hammer.

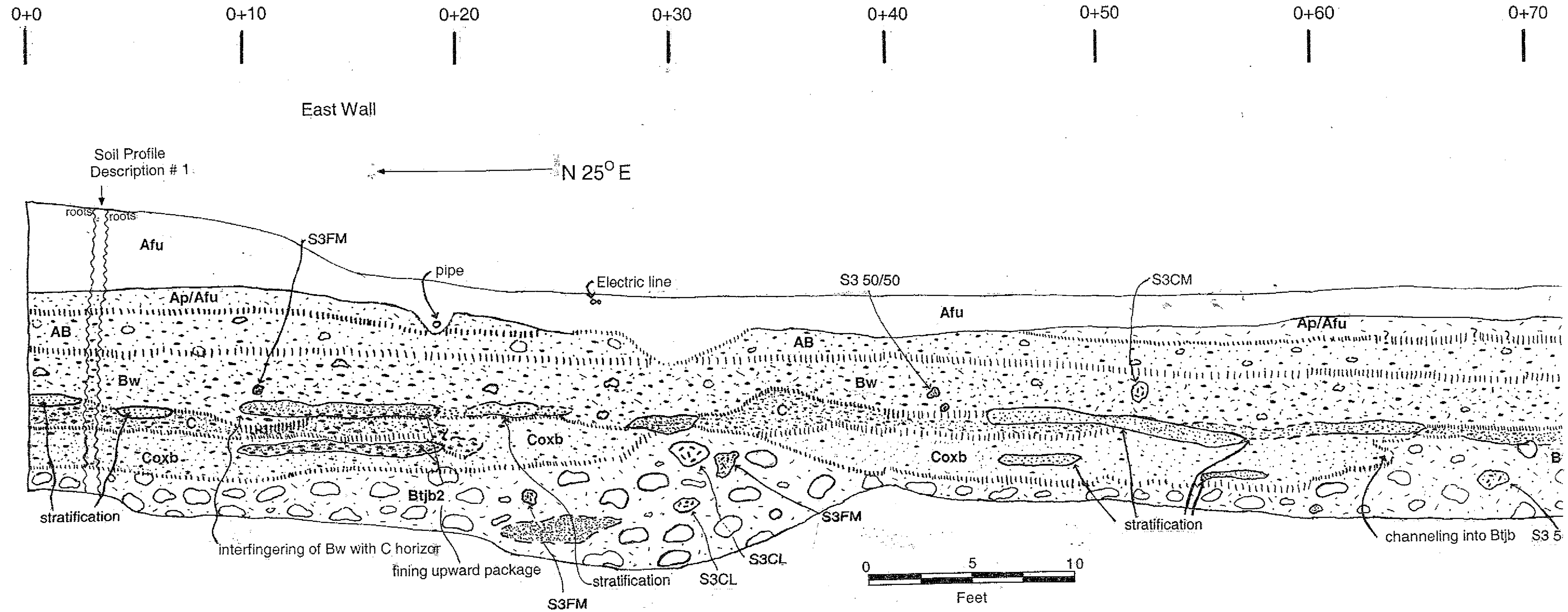
S4- Rock is very strongly weathered and quite easily broken down into monominerallic grus by hand. The rock emits a very dull sound when struck with a hammer.

M	Mafic Clast
L	Felsic Clast
F	Fine Grained Clast
C	Coarse Grained Clast
50/50	50% fine grained, 50% coarse grained

Legend and Description of Units
Loma Alta Park
Altadena, California

Earth Consultants International

Project: 998100-003
August 19, 1999



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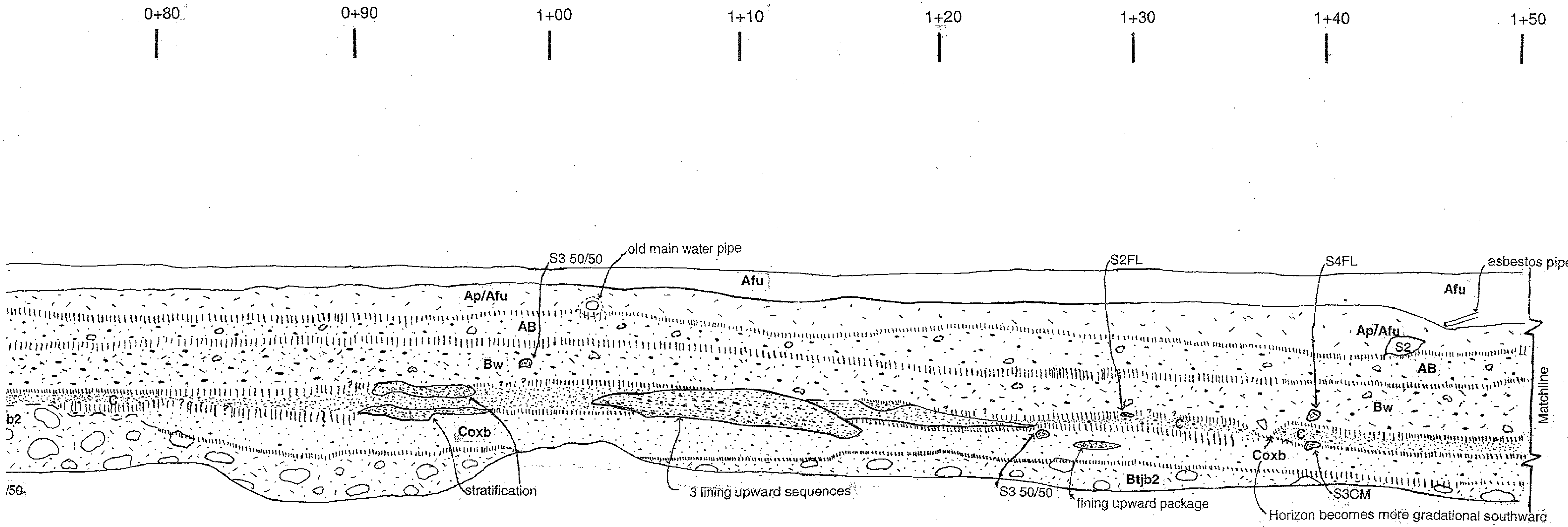


ꓘK TRENCH T-1

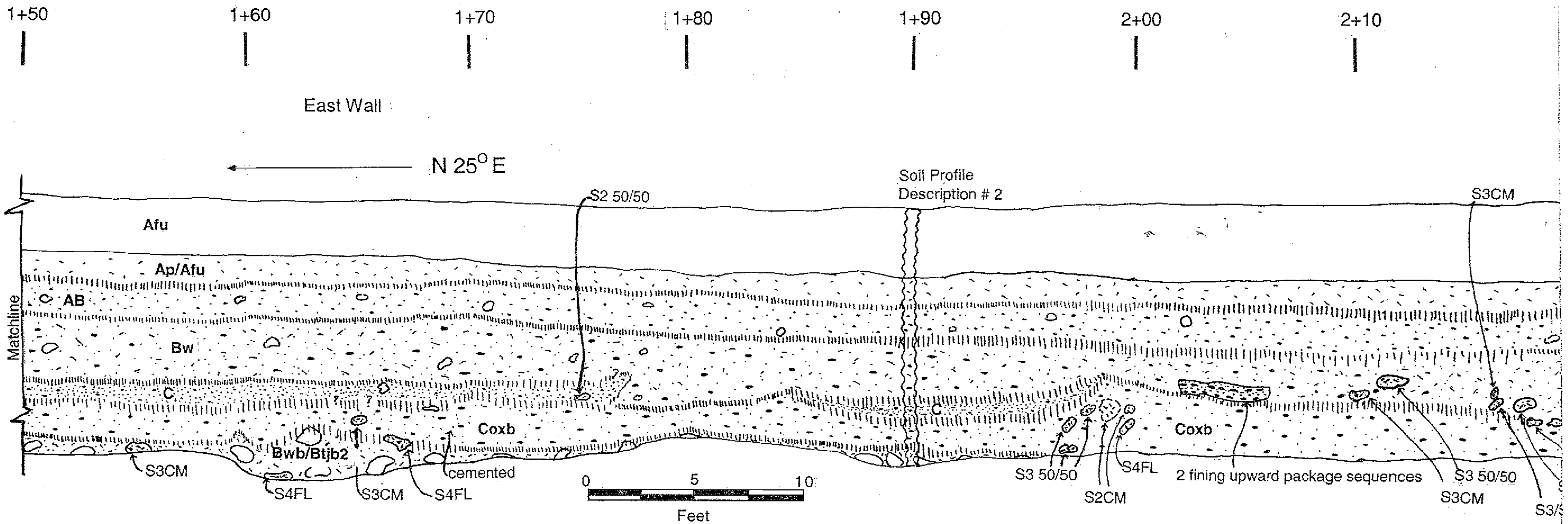
ON OF UNITS- SEE PAGE B-1

PLATE B-1

Earth Consultants International

Project Number 988100-003
August 19, 1999

Log of Trench
Loma Alta Park
Altadena, California



NO VERTICAL EXAGGERATION
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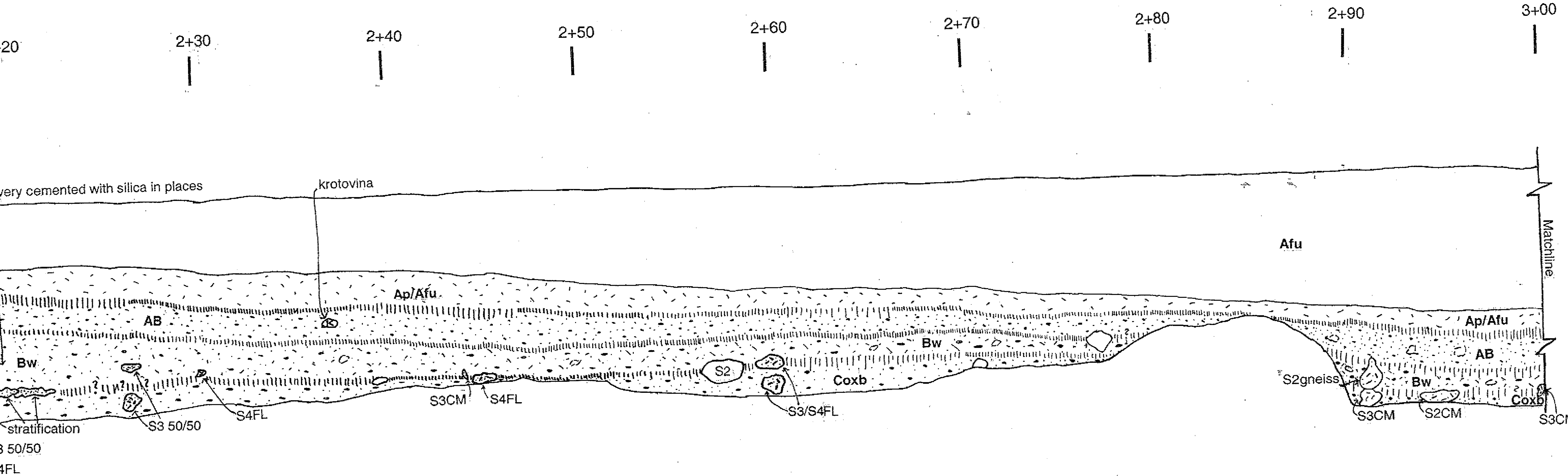


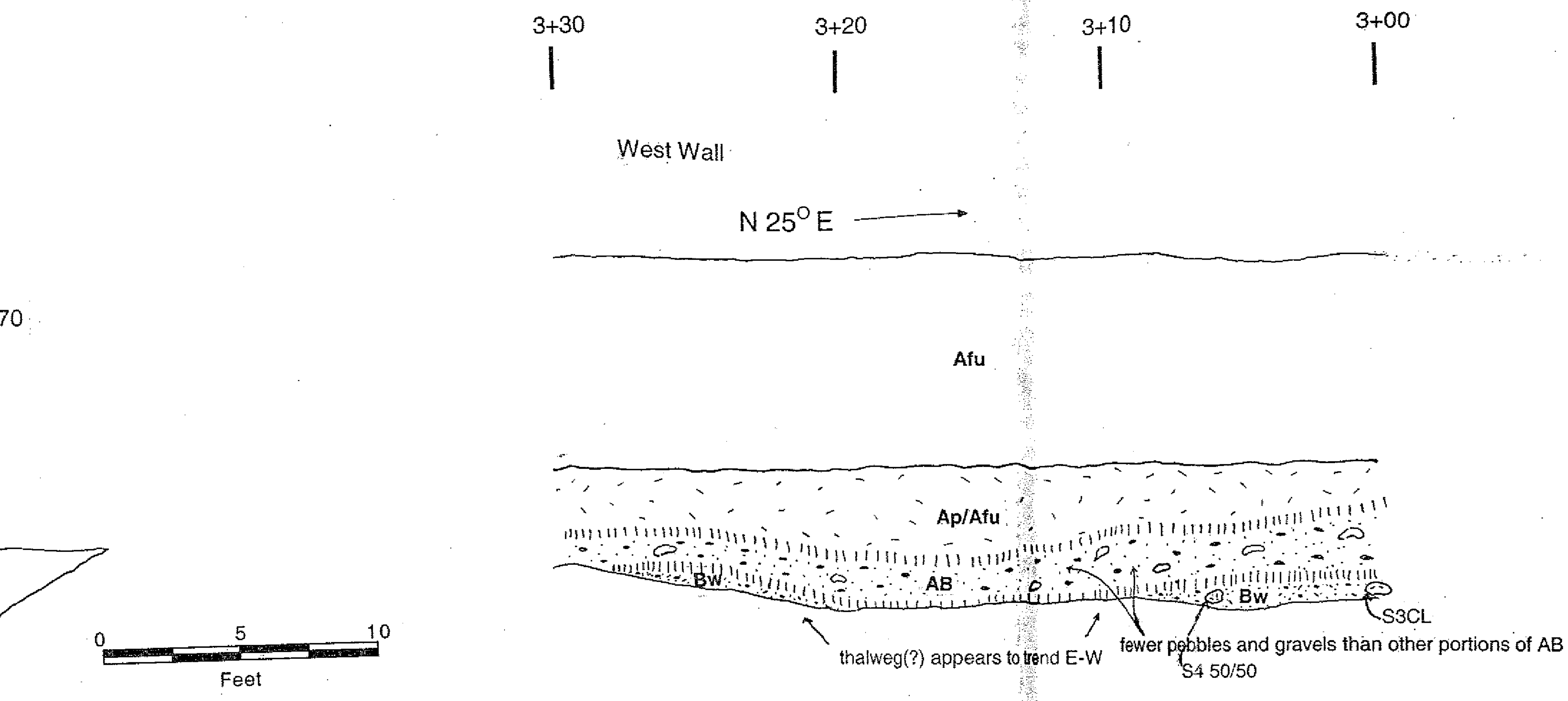
PARK TRENCH T-1

RIPTION OF UNITS- SEE PAGE B-1

PLATE B-2

Earth Consultants International
Project Number 988100-003
August 19, 1999

Log of Trench
Loma Alta Park
Altadena, California



PARK TRENCH T-1

CRIPTION OF UNITS- SEE PAGE B-1

PLATE B-3

Earth Consultants International Project Number 988100-003 August 19, 1999	Log of Trench Loma Alta Park Altadena, California

APPENDIX C
Soils Descriptions and Age Regressions

Soil Profile # 1 @ Station 0+04

6-0 cm Oe horizion (organic horizon with intermediate degree of decomposition); very dark grayish brown (10YR 3/2) when dry; fiber content after material is rubbed between fingers is between 17 and 40% by volume; organic material from sod, clover, and weeds.

0-121 cm Afu horizon (Artificial Fill); color and texture of fill varies, possibly from when the fill was laid down; abrupt and smooth boundary.

121-141 cm Ap/Afu horizon (Artificial Fill and plowed or other disturbed A horizon mixed, re-worked, and compacted), Gravelly LOAMY SAND to SANDY LOAM texture, dark brown (10YR 4/3) when dry, very dark grayish brown (10YR 3/2) when moist; weak, fine granular structure; Consistence, soft or weakly coherent when dry, very friable when moist, nonsticky and nonplastic to slightly plastic when wet; clear and wavy lower boundary; no clay films; approximately 15 percent subrounded to subangular gravel up to 3 cm in diameter; very few roots of less than 1 mm with a few of 2 to 3 mm in diameter at boundary; common pores of less than 1 mm; moderate to poorly sorted; weakly cemented with silica.

141-195 cm AB horizon (organic matter mixed with mineral fraction and development of a redder color), Gravelly and Cobbly SANDY LOAM texture, brown color (10YR 5/3) when dry, dark grayish brown color (10YR 4/2) when moist; with coarse to very fine sand particles; massive breaking to weak very fine granular structure; Consistence, soft or weakly coherent when dry, very friable when moist, nonsticky and nonplastic when wet; clear and wavy boundary; no clay films; approximately 20 to 25 percent subrounded gravels to cobbles up to 18 cm in diameter; common roots of 1 to 4 mm; fine pores of less than 1 mm; poorly sorted; very weakly cemented with silica; some fractured or split clasts (S2 type).

195-268 cm Bw horizon (development of a redder color), Very Gravelly LOAMY SAND to SAND texture with coarse to fine sand particles, light yellowish brown mixed color (10YR 6/4) when dry, yellowish brown mixed color (10YR 5/6) when moist; single grain structure; Consistence, loose when dry and moist, nonsticky and nonplastic when wet; gradual and wavy boundary; no clay films; approximately 50 percent subrounded gravels mostly of less than 1 cm with some at 3 to 7 cm; few to very few roots of less than 2 mm; very few pores of less than 2 mm; moderate to poorly sorted; and weakly cemented with silica.

268-315 cm C horizon (like parent material or earth material from which soil has formed from), Very Gravelly SAND texture with very coarse to very fine sand particles, very pale brown mixed color (10YR 7/3) when dry, pale brown mixed color (10YR 6/3) when moist; single grain structure; Consistence, loose when dry and moist, nonsticky and nonplastic when wet; gradual and clear to wavy and smooth boundary; no clay films; 50 percent or greater subrounded gravels and some cobbles at boundary; very few pores of less than 2 mm; poorly sorted; weakly cemented with silica; interfingering gravels and coarse sand layers; some mafic S3 type weathering of clasts and some S2 splitting and fracturing of others.

315-368 cm Cox horizon (like parent material or earth material from which soil has formed from but consists of oxidized material), Very Gravelly SAND texture with very coarse to fine sand particles, pale brown mixed color (10YR 6/3) when dry, light brownish gray mixed color (10YR 6/2) when moist; single grain structure; Consistence, loose when dry and moist, nonsticky and nonplastic when wet; clear and wavy to smooth boundary; no clay films; 50 percent or greater subrounded gravels with some cobbles at the boundary; very few roots of less than 1 mm; very few pores of less than 2 mm; poorly sorted; and very weakly cemented with silica.

368-418+ cm Btjb horizon (Development of redder color and incipient development of structure and a greater percentage of silts and clays than overlying unit and parent material), Cobbly SANDY LOAM texture with fine to medium sand particles, light yellowish brown color (10YR 6/4) when dry, yellowish brown color (10YR 5/6) when moist; massive breaking to very weak to weak, fine, subangular blocky structure; Consistence, soft when dry, very friable when moist, nonsticky and slightly plastic when wet; no clay films; 50 percent or greater subrounded cobbles with approximately 20% at 20 cm or greater, and some gravels; very few pores of less than 1mm; poor to moderately sorted.

Soil Profile # 2 @ Station 1+90

7-0 cm Oe horizon (organic horizon with intermediate degree of decomposition); dark grayish brown to very dark grayish brown (10YR 4/2-3/2) when dry; fiber content after material is rubbed between fingers is between 17 and 40% by volume; organic material from sod, clover, and weeds.

0-86 cm Afu horizon (Artificial Fill); abrupt and smooth boundary.

86-108 cm Ap/Afu horizon (Artificial Fill and plowed or other disturbed A horizon mixed or re-worked and compacted), SANDY LOAM texture, dark grayish brown (10YR 4/2) when dry, dark brown (10YR 3/3) when moist; massive breaking to weak, fine granular structure; Consistence, soft or weakly coherent when dry, very friable when moist, nonsticky and nonplastic to slightly plastic when wet; abrupt to clear and smooth lower boundary; no clay films; approximately 10 to 15 percent subrounded to subangular gravel up to 3 cm in diameter; few roots of less than 1 mm; common pores of less than 3 mm; moderately well sorted; weakly cemented with silica.

108-163 cm AB horizon (organic matter mixed with mineral fraction and development of a redder color), Gravelly and Cobbly SANDY LOAM to LOAMY SAND texture with coarse to very fine sand particles, pale brown mixed color (10YR 6/3) when dry, yellowish brown mixed color (10YR 5/6) when moist; massive breaking to weak fine to medium granular structure; Consistence, soft or weakly coherent when dry, very friable when moist, nonsticky and nonplastic when wet; gradual to clear and wavy boundary; no clay films; approximately 20 percent subrounded gravels to cobbles with approximately 5-10% 7 to 20 cm in diameter, 5% less than 1 cm and 5% 1 to 5 cm in diameter; very few roots of less than 1 mm; common pores of less than 5 mm; poorly sorted; and weakly cemented silica pockets.

163-219 cm Bw horizon (development of a redder color), Very Gravelly and Cobbly LOAMY SAND to SAND texture with coarse to fine sand particles, light yellowish brown mixed color (10YR 6/4) when dry, yellowish brown mixed color (10YR 5/6) when moist; single grain structure; Consistence, loose when dry and moist, nonsticky and nonplastic when wet; gradual to diffuse and irregular boundary; no clay films; approximately 50 percent subrounded gravels to cobbles; very few roots of less than 1 mm; very few pores of less than 2 mm; poorly sorted; and loose, oxidized, and cemented gravel pockets.

219-281 cm C horizon (like parent material or earth material from which soil has formed from), Very Gravelly SAND texture with very coarse to very fine sand particles, very pale brown mixed color (10YR 7/3) when dry, pale brown mixed color (10YR 6/3) when moist; single grain structure; Consistence, loose when dry and moist, nonsticky and nonplastic when wet; gradual and wavy to smooth boundary; no clay films; 50

percent or greater subrounded gravels with some cobbles at boundary; very few roots of less than 1 mm; very few pores of less than 1 mm; poorly sorted; and weakly cemented with silica.

281-311 cm Cox horizon (like parent material or earth material from which soil has formed from but consists of oxidized material), Very Gravelly SAND texture with very coarse to fine sand particles, light yellowish brown mixed color (10YR 6/4) when dry, yellowish brown mixed color (10YR 5/6) when moist, single grain structure; Consistence, loose when dry and moist, nonsticky and nonplastic when wet; gradual to clear and wavy boundary; no clay films; 50 percent or greater subrounded gravels with some cobbles; very few roots of less than 1 mm; very few pores of less than 2 mm; poorly sorted; and very weakly cemented with silica.

311-330+ cm Bw/Btjb horizon (Development of redder color grading to incipient development of structure and a greater percentage of silts and clays than overlying unit and parent material), Cobbly SANDY LOAM texture with fine to medium sand particles, yellowish brown color (10YR 5/6) when dry, yellowish brown color (10YR 5/4) when moist; massive breaking to weak, fine, subangular blocky structure; Consistence, soft when dry, very friable when moist, nonsticky and nonplastic to slightly plastic when wet; no clay films; 50 percent or greater subrounded cobbles and some gravels; very few pores of less than 1mm; and moderately sorted.

Table 1
Loma Alta Park
Soil Descriptions - Trench 1
Profile 1

	PEDON		HORIZON	DEPTH (cm)	COLOR (dry; moist)	TEXTURE	STRUCTURE	CONSISTENCE (dry; wet)	CLAY FILMS	BOUNDARY		H.I.	NOTES
ID	LAP trench ECI-1 Profile 1		Oe										
Location	Loma Alta Park			6	N/A	N/A	N/A	N/A	N/A	N/A			
P.M.	coarse grain alluvium		Alu								0.00	0.00	
Landform	Terrace			121	N/A	N/A	N/A	N/A	N/A	N/A			
Note	Profile location: North End of Tren		Ap/Alu			<------See	Field	Sheet------>			3.20	0.16	
				20	0.05	0.30	0.25	0.20	0.00				
			AB			<------See	Field	Sheet------>			9.72	0.18	
				54	0.05	0.40	0.25	0.20	0.00				
			Bw			<------See	Field	Sheet------>			5.84	0.08	
				73	0.30	0.10	0.00	0.00	0.00				
			C			<------See	Field	Sheet------>			0.94	0.02	
		194		47	0.10	0.00	0.00	0.00	0.00				
										SDI@194	19.70		
										SDI N=250cm	20.82		
			2Cox			<------See	Field	Sheet------>			0.53	0.01	
				53	0.05	0.00	0.00	0.00	0.00	SDI N=250cm*	19.79		*Assuming truncated soil profile with missing horizons similar to surface soil
			3Bw/Btjb			<------See	Field	Sheet------>			10.33	0.21	
		124		50	0.30	0.40	0.33	0.00	0.00	SDI N=250cm*	24.51		
			Parent Material		10YRx/2	S	s.g.	lo; so,po	n.c.				

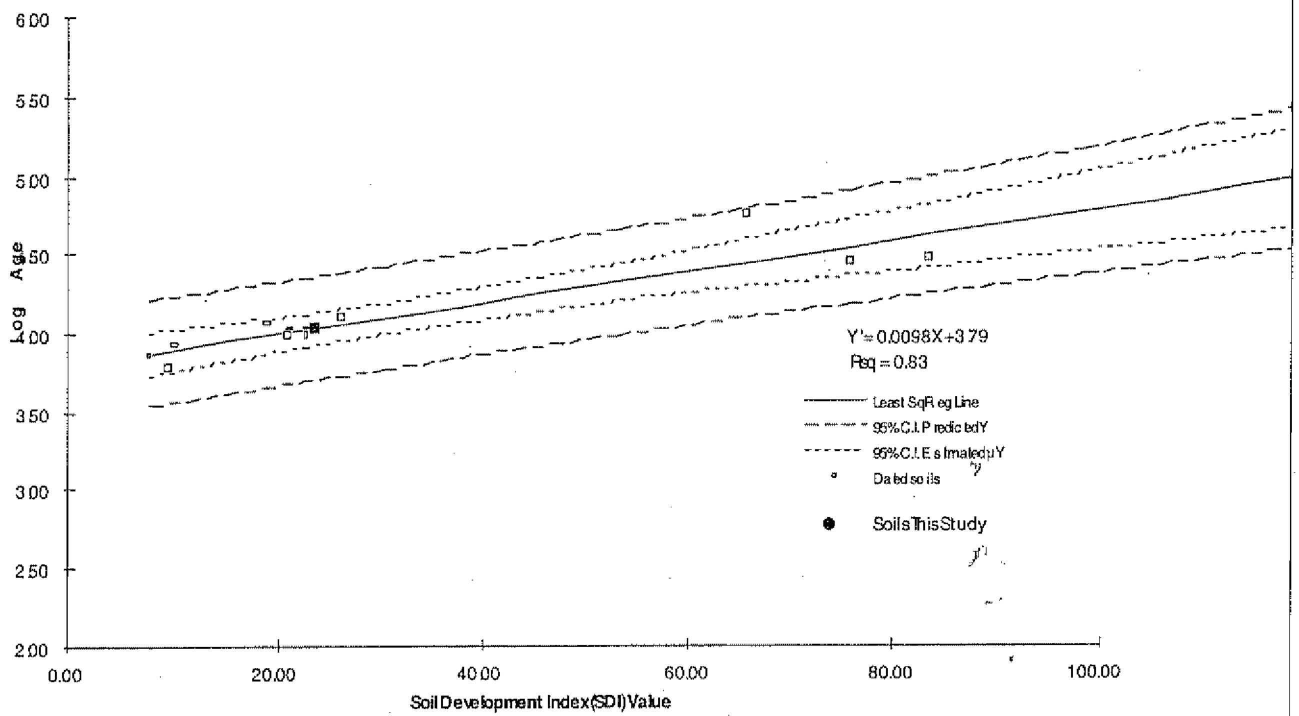
Texture: S-sand, LS-Loamy Sand, SL-Sandy Loam, SCL-Sandy Clay Loam, SC-Sandy Clay, C-Clay
Structure: 1-Weak, 2-Moderate, 3-Strong; f-Fine, m-Medium, c-Coarse; s.g.-Single grain, m-massive, sbk-Subangular Blocky, abk-Angular Blocky, pr-Prismatic
Consistence: (dry) lo-Loose, so-Soft, sh-Slightly hard, h-Hard, vh-Very hard, eh-Extremely hard; (wet) so-Nonsticky, ss-Slight sticky, s-sticky, vs-Very sticky, po-Nonplastic, ps-Slightly plastic, p-Plastic, vp-Very plastic
Clay Films: n-Thin, mk-Moderatly thick, k-Thick; v1-Very few, 1-Few, 2-Common, 3-Many, 4-Continuous; po-In pores, br-Bridging grains, pf-On ped faces, cl-Coating clasts
Horizon Boundaries: a-Abrupt, c-Clear, g-Gradual, d-Diffuse; s-Smooth, w-Wavy, i-Irregular

Table 2
Loma Alta Park
Soil Descriptions - Trench 1
Profile 2

	PEDON	HORIZON	DEPTH (cm)	COLOR (dry; moist)	TEXTURE	STRUCTURE	CONSISTENCE (dry; wet)	CLAY FILMS	BOUNDARY		H.I.	NOTES
ID	LAP trench ECI-1 Profile 2											
Location	Loma Alta Park	Oe										
P.M.	coarse grain alluvium		7	N/A	N/A	N/A	N/A	N/A	N/A	0.00	0.00	
Landform	Terrace	Afu										
Note	Profile location: Station 1+91'		86	N/A	N/A	N/A	N/A	N/A	N/A			
		Ap/Afu			<----------See	Field	Sheet---------->			4.33	0.20	
			22	0.05	0.40	0.25	0.28	0.00				
		AB			<----------See	Field	Sheet---------->			11.00	0.20	
			55	0.25	0.30	0.25	0.20	0.00				
		Bw			<----------See	Field	Sheet---------->			3.92	0.07	
			56	0.25	0.10	0.00	0.00	0.00				
		C			<----------See	Field	Sheet---------->			1.24	0.02	
			62	0.10	0.00	0.00	0.00	0.00				
									SDI@195cm	20.49		
									SDI N=250cm	21.59		
		2Cox	30		<----------See	Field	Sheet---------->			1.80	0.06	
				0.30	0.00	0.00	0.00	0.00	SDI N=250cm*	26.09		*Assuming truncated soil profile with
	77	3Bw/Btjb	19		<----------See	Field	Sheet---------->			4.24	0.22	missing horizons
				0.30	0.40	0.33	0.08	0.00	SDI N=250cm*	22.65		similar to surface soil
		Parent Material		10YRx/2	S	s.g.	lo; so,po	n.o.				

Texture: S-sand, LS-Loamy Sand, SL-Sandy Loam, SCL-Sandy Clay Loam, SC-Sandy Clay, C-Clay
Structure: 1-Weak, 2-Moderate, 3-Strong; f-Fine, m-Medium, c-Coarse; s.g.-Single grain, m-massive, sbk-Subangular Blocky, abk-Angular Blocky, pr-Prismatic
Consistence: (dry) lo-Loose, so-Soft, sh-Slightly hard, h-Hard, vh-Very hard, eh-Extremely hard; (wet) so-Nonsticky, ss-Slightlt sticky, s-sticky, vs-Very sticky, po-Nonplastic, ps-Slightly plastic, p-Plastic, vp-Very plastic
Clay Films: n-Thin, mk-Moderatly thick, k-Thick; v1-Very few, 1-Few, 2-Common, 3-Many, 4-Continuous; po-In pores, br-Bridging grains, pf-On ped faces, cl-Coating clasts
Horizon Boundaries: a-Abrupt, c-Clear, g-Gradual, d-Diffuse; s-Smooth, w-Wavy, i-Irregular

Chart 1
Loma Alta Park
Soil Development Index Values
for the Averages of Profiles 1 2

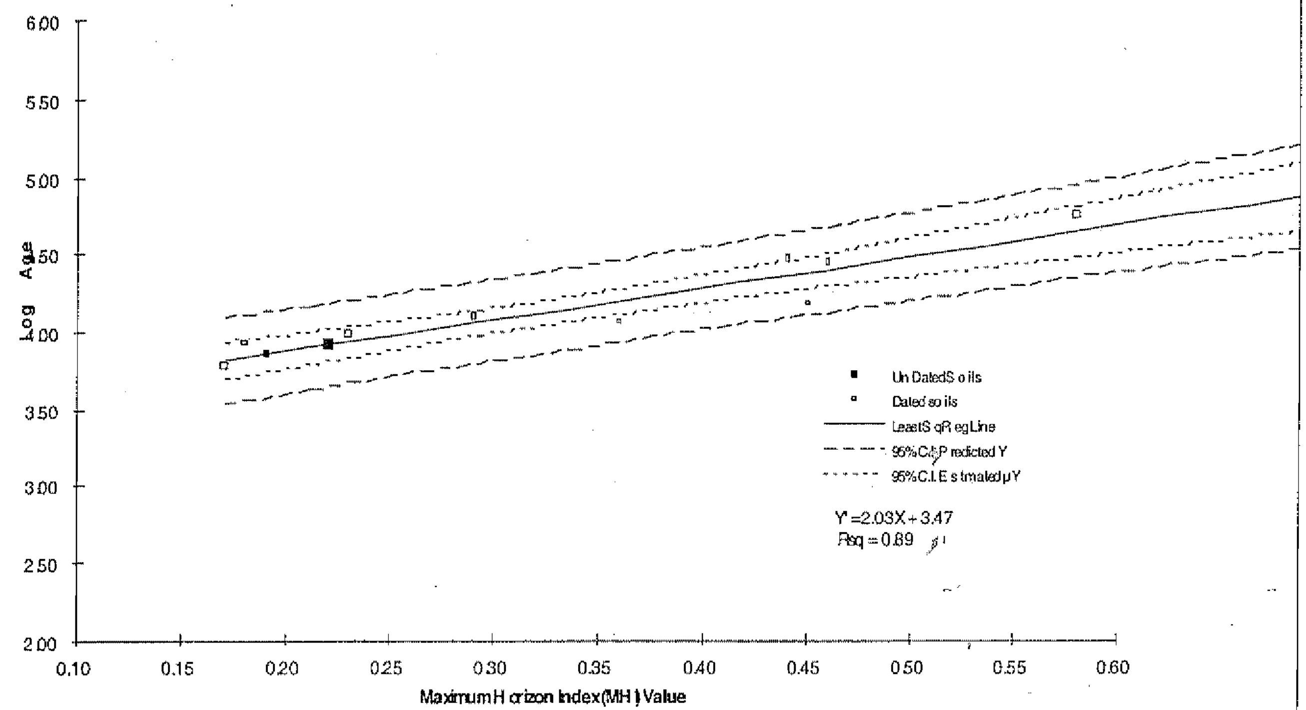


Normalized
Depth nd = 250

Profile	AvrageSDI	Log Age	Max Error in μofY	Min Error in μofY	Max Error in Ypop.	Min Error in Ypop.	Age(yrs)	95% Predicted AgeCI. Max	Min
Surfacesoil	21.21	4.00	4.11	3.89	4.33	3.67	10,065	21,569	4,697
Buried Soil 1	22.94	4.02	4.13	3.91	4.35	3.69	10,468	22,389	4,894
Buried Soil 2	23.58	4.03	4.13	3.92	4.36	3.70	10,620	22,702	4,968

APPENDIX C
Soil Descriptions and Age Regressions

Chart 2
Loma Alta Park
Maximum Horizon Index Values
for the Averages of Profiles 1 2



Profile	Ave MHI	Log Age	Max Error in μ of Y	Min Error in μ of Y	Max Error in Y pop.	Min Error in Y pop.	Age (yrs)	95% Predicted Age C.I. Max	95% Predicted Age C.I. Min
Surface Soil	0.19	3.86	3.97	3.74	4.13	3.58	7,186	13,604	3,796
Buried Soil 1*	0.04	3.54	3.73	3.35	3.86	3.23	3,485	7,227	1,681
Buried Soil 2	0.22	3.92	4.02	3.81	4.19	3.64	8,266	15,476	4,415

* N/A Diagnostic Horizon Assumed truncated

Appendix E

Geotechnical Investigation

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

June 24, 2004

Project No. 2990002-003

To: Carde Ten Architects
1638 19th Street
Santa Monica, California 90404

Attention: Ms. Angela Perez

Subject: Review of the Revised Location for the Proposed Gymnasium, Loma Alta Regional Park, Northeast of Lincoln Avenue and Loma Alta Street, Altadena Area of Unincorporated Los Angeles County, California

At your request, Leighton and Associates, Inc. (Leighton) has reviewed the most recent development plans for the proposed gymnasium and other improvements at Loma Alta Park in the Altadena area of unincorporated Los Angeles County. In particular we have reviewed the following information:

- Grading & Drainage Plan for the Loma Alta County Park, New Gymnasium and General Park Improvements dated September 19, 2003, revised June 15, 2004, by Carde Ten Architects and prepared by JK Associates.

- The Earth Consultants International, Inc. report entitled "Fault Investigation at the Proposed Gymnasium Site, Loma Alta Regional Park, Northeast of Lincoln Avenue and Loma Alta Street, in the Altadena area, Unincorporated Los Angeles County, California; ECI Project No. 998100-003 (LA Project No. 980224-003), dated August 25, 1999.

The purpose of this review was to compare the footprint of the revised location for the proposed gymnasium in relation to the recommended construction area as shown on Figure 4 of the above-referenced report by ECI. The previous design placed the northeast corner of the building approximately 10 feet outside (north of) the recommended construction area.

Based on our review, the proposed location for the gymnasium is south of the previous design. The building now appears to be planned for construction entirely within the recommended construction area. The northeast corner of the building is located adjacent to the northern recommended construction limit and the building is located 25 feet or more north of southern recommended construction limit. This location within the recommended construction area is acceptable.

We hope this provides the information you need at this time. Please call if you have any questions regarding this letter.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Philip Buchiarelli, CEG 1715
Senior Associate Geologist

PB/rsh

Distribution: (2) Addressee

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

June 28, 2004

Project No. 2990002-003

To: Carde Ten Architects
1638 Nineteenth Street
Santa Monica, California 90404

Attention: Ms. Angela Perez

Subject: Additional Retaining Wall Recommendations, Proposed Gymnasium, Loma Alta Park, Altadena Area, Los Angeles County, California

Reference: Leighton and Associates, Inc., 2000, Report Preliminary Geotechnical Investigation for the Proposed Gymnasium, Loma Alta Park, Altadena Area, Los Angeles County, California, Project No. 2990002-001, dated January 31, 2000

Retaining wall with 2:1 (horizontal to vertical) slopes ascending from the top of the wall and descending from the base of the wall are planned at the site of the proposed gymnasium. We had not previously provided recommendations for these conditions. Therefore, the following additional retaining wall recommendations are provided. The retaining wall recommendations presented in our referenced report remain valid and applicable, unless superceded herein.

The following equivalent fluid pressure recommendations are based on the assumption that a granular backfill exhibiting a sand equivalent of 30 or greater will be utilized.

Static Equivalent Fluid Weight (pcf)		
Condition	Level	2:1 Slope
Active	33	50
At-Rest	55	73
Passive	400 (Maximum of 3,500 psf)	250 (sloping away)

10532 Acacia Street, Suite B-6 ▪ Rancho Cucamonga, CA 91730
909.484.2205 ▪ Fax 909.484.2170 ▪ www.leightongeo.com

Retaining walls constructed at, or near the top of slopes should have a minimum depth of embedment such that there is a minimum of 7 feet (measured horizontally) between the bottom, outside edge of the footing and the face of the descending slope.

Please call us if you have any questions regarding these recommendations.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Philip A. Buchiarelli, CEG 1715
Senior Associate Geologist

REGISTERED PROFESSIONAL ENGINEER
JASON D. HERTZBERG
No. 61778
Exp. 6-30-05
CIVIL
STATE OF CALIFORNIA

Jason D. Hertzberg, RCE 61778
Project Engineer

PB/JDH/rsh

Distribution: (2) Addressee

A GTG Company

Leighton and Associates

GEOTECHNICAL CONSULTANTS

REVISED SEISMIC DESIGN PARAMETERS, PROPOSED GYMNASIUM, LOMA ALTA PARK, LINCOLN AVENUE AND LOMA ALTA DRIVE, ALTADENA AREA, LOS ANGELES COUNTY CALIFORNIA

April 26, 2000

Project No. 2990002-001

Prepared for:

CARDE TEN ARCHITECTS
1638 Nineteenth Street
Santa Monica, California 90404

We appreciate the opportunity to be of service on this project. If you have any questions regarding the information contained in this letter, please call us at your convenience.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

REGISTERED PROFESSIONAL ENGINEER
DAVID C. SMITH
No. 46222
Exp. 12-31-02
CIVIL
STATE OF CALIFORNIA

Philip A. Buchiarelli CEG 1715
Senior Project Geologist

David C. Smith, RCE 46222
Vice President/Principal Engineer

PB/DCS/rsh

Attachments: Appendix A - References
Appendix B - Deterministic Seismic Parameters

Distribution: (2) Addressee
(2) Los Angeles County Department of Public Works
Attention: Mr. Gil Garcia

Appendix A

REFERENCES

Earth Consultants International, Inc., 1999, Fault Investigation at the Proposed Gymnasium Site, Loma Alta Regional Park, Northeast of Lincoln Avenue and Loma Alta Street, in the Altadena Area, Unincorporated Los Angeles County, California, Project No. 998100-003, dated August 25, 1999.

Leighton and Associates, Inc., Report of preliminary Geotechnical Investigation for the Proposed Gymnasium, Loma Alta Park, Altadena Area, Los Angeles County, California, Project No. 2990002-001, dated January 31, 2000.

Rubin, Charles M., Lindvall, S. C., and Rockwell, T. K., 1998, Evidence for Large Earthquakes in Metropolitan Los Angeles: Science, Col. 281, pp. 398-402.

DATE: Saturday, April 22, 2000

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*                                    *
*          E Q F A U L T             *
*                                    *
*           Ver. 2.20                *
*                                    *
**************************************
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(Estimation of Peak Horizontal Acceleration
From Digitized California Faults)

SEARCH PERFORMED FOR: PB

JOB NUMBER: 990002-002

JOB NAME: Carde Ten Alta Loma Park

SITE COORDINATES:
LATITUDE: 34.2028 N
LONGITUDE: 118.1579 W

SEARCH RADIUS: 62 mi

ATTENUATION RELATION: 3) Boore et al. (1993a) Horiz. - Random - Site Class C

UNCERTAINTY (M=Mean, S=Mean+1-Sigma): M

SCOND: 0

COMPUTE PEAK HORIZONTAL ACCELERATION

FAULT-DATA FILE USED: CDMGSCR.DAT

SOURCE OF DEPTH VALUES (A=Attenuation File, F=Fault Data File): A

DETERMINISTIC SITE PARAMETERS

ABBREVIATED FAULT NAME	APPROX. DISTANCE mi (km)	MAX. CREDIBLE EVENT MAX. CRED. MAG.	PEAK SITE ACC. g	SITE INTENS MM	MAX. PROBABLE EVENT MAX. PROB. MAG.	PEAK SITE ACC. g	SITE INTENS MM
SAN ANDREAS - San Bernardi	37 (59)	7.30	0.108	VII	7.30	0.108	VII
SAN ANDREAS - Southern	37 (59)	7.40	0.114	VII	7.30	0.108	VII
SAN ANDREAS - Mojave	23 (37)	7.10	0.140	VIII	7.10	0.140	VIII
SAN ANDREAS - Carrizo	40 (64)	7.20	0.097	VII	7.20	0.097	VII
SAN ANDREAS - 1857 Rupture	23 (37)	7.80	0.202	VIII	7.50	0.173	VIII
SAN JACINTO-SAN JACINTO VA	54 (87)	6.90	0.065	VI	6.80	0.061	VI
SAN JACINTO-SAN BERNARDINO	37 (60)	6.70	0.078	VII	6.70	0.078	VII
ELSINORE-TEMECULA	60 (97)	6.80	0.056	VI	6.30	0.043	VI
ELSINORE-GLEN IVY	38 (62)	6.80	0.080	VII	6.30	0.062	VI
WHITTIER	17 (27)	6.80	0.149	VIII	5.90	0.093	VII
CHINO-CENTRAL AVE. (Elsino	26 (42)	6.70	0.123	VII	5.50	0.066	VI
GARLOCK (West)	57 (92)	7.10	0.069	VI	6.50	0.050	VI
NEWPORT-INGLEWOOD (Offshor	44 (71)	6.90	0.076	VII	5.80	0.042	VI
CLAMSHELL-SAWPIT	9 (15)	6.50	0.240	IX	5.00	0.109	VII
CUCAMONGA	25 (40)	7.00	0.150	VIII	6.10	0.093	VII
HOLLYWOOD	7 (11)	6.40	0.271	IX	5.30	0.152	VIII
HOLSER	27 (43)	6.50	0.110	VII	4.90	0.047	VI
MALIBU COAST	25 (40)	6.70	0.130	VIII	4.90	0.050	VI

M.RIDGE-ARROYO PARIDA-SANT	60 (97)	6.70	0.065	VI	5.40	0.033	V
NEWPORT-INGLEWOOD (L.A.Bas	17 (27)	6.90	0.158	VIII	5.60	0.079	VII
OAK RIDGE (Onshore)	35 (56)	6.90	0.110	VII	6.20	0.076	VII
PALOS VERDES	27 (44)	7.10	0.122	VII	6.20	0.076	VII
RAYMOND	5 (8)	6.50	0.342	IX	5.00	0.155	VIII
SAN CAYETANO	38 (61)	6.80	0.098	VII	6.40	0.079	VII
SAN GABRIEL	11 (17)	7.00	0.234	IX	5.60	0.112	VII

DETERMINISTIC SITE PARAMETERS

ABBREVIATED FAULT NAME	APPROX. DISTANCE mi (km)	MAX. CREDIBLE EVENT MAX. CRED. MAG.	MAX. CREDIBLE EVENT PEAK SITE ACC. g	MAX. CREDIBLE EVENT SITE INTENS MM	MAX. PROBABLE EVENT MAX. PROB. MAG.	MAX. PROBABLE EVENT PEAK SITE ACC. g	MAX. PROBABLE EVENT SITE INTENS MM
SAN JOSE	20 (31)	6.50	0.139	VIII	5.00	0.063	VI
SANTA MONICA	17 (27)	6.60	0.166	VIII	5.50	0.093	VII
SANTA YNEZ (East)	50 (81)	7.00	0.072	VII	5.90	0.041	V
SANTA SUSANA	21 (34)	6.60	0.139	VIII	6.30	0.119	VII
SIERRA MADRE (San Fernando	9 (15)	6.70	0.265	IX	5.60	0.148	VIII
SIERRA MADRE	0 (0)	7.50	0.919	XI	6.20	0.463	X
SIMI-SANTA ROSA	37 (60)	6.70	0.095	VII	5.50	0.050	VI
VENTURA - PITAS POINT	57 (92)	6.80	0.072	VI	5.50	0.036	V
VERDUGO	4 (6)	6.70	0.433	X	5.20	0.196	VIII
COMPTON THRUST	26 (42)	6.80	0.196	VIII	5.80	0.116	VII
ELYSIAN PARK THRUST	13 (22)	6.70	0.307	IX	5.80	0.191	VIII
NORTHRIDGE (E. Oak Ridge)	15 (24)	6.90	0.312	IX	5.80	0.174	VIII
ANACAPA-DUME	34 (55)	7.30	0.139	VIII	6.30	0.082	VII

CLEGHORN	40 (65)	6.50	0.066	VI	6.00	0.051	VI
NORTH FRONTAL FAULT ZONE (	51 (81)	7.00	0.087	VII	5.60	0.042	VI

****

-END OF SEARCH- 40 FAULTS FOUND WITHIN THE SPECIFIED SEARCH RADIUS.

THE SIERRA MADRE FAULT IS CLOSEST TO THE SITE.
IT IS ABOUT 0.1 MILES AWAY.

LARGEST MAXIMUM-CREDIBLE SITE ACCELERATION: 0.919 g

LARGEST MAXIMUM-PROBABLE SITE ACCELERATION: 0.463 g

Leighton and Associates

A GTG Company

GEOTECHNICAL CONSULTANTS

REPORT OF PRELIMINARY GEOTECHNICAL INVESTIGATION FOR THE PROPOSED GYMNASIUM, LOMA ALTA PARK, ALTADENA AREA, LOS ANGELES COUNTY, CALIFORNIA

January 31, 2000

Project No. 2990002-001

Prepared For:

CARDE TEN ARCHITECTS
1683 Nineteenth Street
Santa Monica, California 90404

14125 Telephone Ave., #1, Chino, CA 91710-5770
(909) 590-4909 • FAX (909) 590-2989 • www.leightongeo.com

Leighton and Associates

A GTG Company

GEOTECHNICAL CONSULTANTS

January 31, 2000

Project No. 2990002-001

To: Carde Ten Architects
1683 Nineteenth Street
Santa Monica, California 90404

Attention: Mr. Eric Mar

Subject: Report of Preliminary Geotechnical Investigation for the Proposed Gymnasium, Loma Alta Park, Altadena Area, Los Angeles County, California

In response to your request, Leighton and Associates, Inc. (Leighton) has conducted a preliminary geotechnical investigation for the proposed gymnasium in Loma Alta Park in the Altadena area of Los Angeles County. The purpose of our investigation was to explore the subsurface conditions, to evaluate the general soil characteristics at the site, and to provide preliminary geotechnical recommendations for the proposed development. Our work is based on the Site Plan prepared by you. The plans show the approximate footprint of the gymnasium as well as your recommended boring locations. No grading or foundation plans are available at this time. An investigation to evaluate the site with respect to the possible presence of active faults onsite was previously prepared (ECI, 1999).

Based upon our investigation and analysis, the proposed development is feasible from a geotechnical viewpoint, provided our recommendations are incorporated into the design and construction of the project. The most significant geotechnical issues at the site are those related to compressible soils. The site is underlain by varying thicknesses of undocumented artificial fill underlain by alluvial soil deposits. The undocumented fill and the upper alluvial soil deposits are moderately to highly compressible and are expected to undergo consolidation settlement, depending on the thickness of fill placement and the magnitude of foundation loads. Complete removal and recompaction of the undocumented fill and partial removal and recompaction of the native alluvial soils will be required to reduce the potential for excessive total and differential settlement.

Oversized materials (cobbles and boulders in excess of 8 inches in any dimension) were encountered during the fault investigation and in the gymnasium area. Oversized materials should be removed from fill within the upper 5 feet of finished pad grade. Recommendations for oversized material disposal are presented in Section 4.4 of this report.

The Sierra Madre fault is located immediately north of the site and possible evidence of faulting onsite was observed during our initial work on the site. We recommended that a detailed fault investigation be conducted. The investigation was performed and a fault trench excavated across the site revealed no evidence of active faulting in the area of the proposed gymnasium (ECI, 1999). However, southern California is a seismically active region and significant seismic shaking could impact the site in the future. The site is not located in an area mapped as subject to slope instability or liquefaction resulting from strong seismic shaking.

Based on our laboratory testing of representative soil samples, concrete in contact with the near-surface, onsite soil is expected to have negligible exposure to water-soluble sulfates. The near-surface onsite soils are expected to be moderately corrosive to ferrous metals and have a very low to low expansion potential.

This report was based in part on data obtained from a limited number of observations, site visits, soil excavations, samples, and tests. Such information is, by necessity, incomplete. The nature of many sites is such that differing soils or geologic conditions can be experienced within small distances and under varying climatic conditions. Changes in subsurface conditions can and do occur over time. Therefore, the findings, conclusions, and recommendations presented in this report are only valid if Leighton has the opportunity to observe the subsurface conditions during grading and construction in order to confirm that our preliminary data are representative for the site. Leighton should also review foundation plans and project specifications, when available, to comment on the geotechnical aspects.

We appreciate the opportunity to work with you on this project. If you have any questions, or if we can be of further service, please call us at your convenience.

Respectfully submitted,

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1.0 INTRODUCTION

1.1 Site Description and Proposed Development

The proposed gymnasium (gym) is to be located in Loma Alta Park at the northeast corner of Lincoln Avenue and Loma Alta Avenue in the Altadena Area of unincorporated Los Angeles County. The gym is planned for construction in the southeast portion of the park at the site of the existing open air basketball courts. This portion of the site is relatively level although retaining walls to a maximum height of about 10 feet are present south and east of the basketball courts. The basketball courts are currently paved with asphalt. Based upon the site plan, it appears that the southern existing retaining wall is expected to remain in place. However, the eastern retaining wall will be located within the gym footprint and will probably be removed as a result of construction. South of the gym site is a recently graded area planned to be further improved for a parking area. East of the gym site is Sunset Ridge Road. Baseball fields are present in the park west of the proposed gym and vacant areas and playground areas are located north of the gym. Based upon plans for the park received from Los Angeles County representatives, it appears this area of the park was originally constructed in the late 1950's or early 1960's. Site improvements at that time included leveling the park area, construction of the retaining walls and open air basketball courts and other facilities.

Other improvements planned for the park include construction of a new open air basketball court north of the gym and improvement of a parking lot south of the gym.

Grading plans were not available at the time of our investigation, however, we anticipate that only minor fills or cuts will be required to achieve design grade. We expect that construction of a new retaining wall along the southeast side of the structure will be required to achieve design grade for the gym adjacent to Sunset Ridge Road.

1.2 Purpose of Investigation

The purpose of this investigation was to evaluate the geotechnical conditions at the site as they relate to the proposed development and to provide preliminary geotechnical parameters and recommendations for design and construction. Our work is based on the site plan that you provided. It is also based on various conversations we have had with you regarding the proposed improvements.

1.3 Scope of Investigation

The scope of our investigation has included the following tasks:

- Background Review - A background review of readily available, relevant, geotechnical reports, literature and historic aerial photographs was performed.

- Field Investigation - Our field investigation consisted of the excavation, logging and sampling of six hollow-stem auger borings (B-1 through B-6). Samples obtained from the field investigation were transported to our laboratory for analysis. The location of our borings were based upon the recommended boring locations provided by you and as dictated by field and access conditions.

- Laboratory Tests - Laboratory tests were performed on selected relatively undisturbed and bulk soil samples obtained during our field investigation. The laboratory testing program was designed to evaluate the engineering characteristics of the onsite soils. Tests performed include:

  - In situ moisture content and dry density of existing soils.

  - Maximum dry density and optimum moisture content to evaluate relative density of the in situ earth materials.

  - Direct shear on remolded samples to evaluate the strength characteristics.

  - Consolidation to evaluate the compressibility and collapse potential of the in situ soils.

  - Water-soluble sulfate content for cement type recommendations.

  - Resistivity, and pH to evaluate the corrosion potential of the onsite soils to ferrous metals.

- Engineering Analysis - The data obtained from our background review, field exploration and laboratory testing program was evaluated and analyzed in order to provide the conclusions and recommendations in the following sections.

- Report Preparation - The results of our geotechnical investigation have been summarized in this report presenting our findings, conclusions and recommendations.

1.4 Field Investigation

Our field investigation consisted of the excavation, logging and sampling of six hollow-stem auger borings (B-1 through B-6). The hollow-stem auger borings were drilled to depths ranging from approximately 11 to 21 feet below the existing ground surface. Borings B-1 and B-3 were drilled to a depth of 11 feet within the proposed parking lot and new basketball court area, respectively. Borings B-2, B-4, B-5 and B-6 were drilled within, or adjacent to, the gym footprint. These borings were drilled to depths ranging from 14 to 21 feet. Several of these borings met refusal due to the presence of cobbles and boulders. Each boring was logged by a qualified engineer. Relatively undisturbed soil samples were obtained at selected intervals using a California ring sampler. Ring samples were obtained using split-spoon samplers connected to drill rods. The samplers were driven 18 inches into the subsurface at the indicated depths on the boring logs using an automatic hammer, in accordance with ASTM Test Method D 1586. Bulk samples of representative soil types were obtained from the borings. The borings were backfilled with native soil and tamped with the drill rig equipment. Logs of the geotechnical borings are presented in Appendix B. Boring locations are shown on the accompanying Boring Location Map (Figure 2).

2.0 FINDINGS

2.1 Site Geology

In southern California, approximately 50 mm/yr of dextral (right lateral) shear is accommodated across the Pacific-North American plate margin (DeMets, 1995). The faults that comprise the plate margin are collectively called the San Andreas Fault System. The Los Angeles metropolitan region lies within this fractured margin at a transitional zone where predominately strike-slip rigid-block tectonics to the south give way to east-west trending folding and contractional faulting within the Transverse Ranges to the north (Walls and others, 1998). The project site is located along the Sierra Madre - Cucamonga Fault Zone, which represents the frontal fault system of the San Gabriel Mountains in the central Transverse Ranges and forms the northern boundary of the Los Angeles metropolitan region (ECI, 1999).

2.2 Earth Units

Based upon our review of pertinent geotechnical literature, and our subsurface exploration, the site is underlain by undocumented artificial fill, controlled artificial fill and native alluvial soil deposits.

2.2.1 Undocumented Artificial Fill

Undocumented artificial fill consisting of silty sand with gravel and cobbles is present at various locations within the building footprint and in other areas of the park. Undocumented fill on the order of 10 feet in depth was encountered in Boring B-5 located behind the existing retaining wall. This fill was presumably placed during the initial construction of the park. It is not known what compaction effort, if any, was exerted during placement of the fill. Based upon our observations, the fill appeared relatively dry and loose.

2.2.2 Controlled Artificial Fill

Controlled artificial fill consisting of silty sand with gravel was encountered in Boring B-1 drilled in the area of the proposed parking lot. The fill appeared moist and dense as encountered in our boring. We understand this area was recently graded concurrent with construction of the La Vina development. However, we have no documentation regarding that grading.

2.2.3 Alluvial Deposits (Map Symbol Qal)

Alluvial fan deposits underlie the fill soils onsite. Based on our field explorations and laboratory analysis, the alluvial soil deposits are predominantly comprised of sand, silty sand and clayey sand with gravel and varying amounts of cobble and boulders. These soil deposits were generally dry to slightly moist and medium dense to dense. Oversized materials were encountered in the alluvial soils.

2.3 Ground Water

Ground water was not encountered during this investigation. Based upon available ground water data, ground water is present beneath the site at depths in excess of 200 feet (Los Angeles County, 1993).

2.4 Faulting and Seismicity

The two principal seismic considerations for most properties in southern California are surface rupturing of earth materials along fault traces and damage to structures and foundations due to seismically-induced ground shaking. It is generally assumed that the more recent the fault movement, the greater the likelihood of movement in the future. Therefore, the date of the last surface rupture on a given fault has a direct bearing on the need for special studies. Thus, an active fault is one that has moved in Holocene time (the last 11,000 years). Any fault proven to be older than 11,000 years is considered to be inactive. However, a fault that has moved during the last 1.6 million years (Pleistocene time) is considered to be potentially active.

The Sierra Madre fault has been mapped immediately north of the proposed gym site. However, based upon a fault investigation conducted onsite, no evidence of active faulting was observed in the vicinity of the proposed gym (ECI, 1999). However, there are several known active and potentially active faults that have been mapped in the region that could produce significant ground shaking at the site. These are faults that have been studied in sufficient detail, such that reasonable models and parameters have been developed concerning their seismicity. The known regional active and potentially active faults that could produce the most significant ground shaking at the site include the Sierra Madre, Cucamonga, Verdugo, Raymond, and Hollywood faults.

The intensity of ground shaking at a given location depends primarily upon the earthquake magnitude, the distance from the source, and the site response characteristics. Peak Horizontal Ground Accelerations (PGA) for the site were estimated using deterministic seismic hazard analysis. This analysis requires information regarding fault geometry, the magnitude of the earthquake for the fault, and the attenuation relationship. The attenuation relationship assesses how ground motion amplitudes decrease with distance. This relationship is commonly derived based on data from similar earthquake types and in similar geographic locales.

2.4.1 Deterministic Seismic Hazard Analysis

The deterministic seismic hazard analysis computes PGA's that could be expected to result from an earthquake occurring on any known active or potentially active fault located in the area. The maximum credible earthquake (MCE) is the maximum earthquake magnitude of each fault, which appears capable of occurring under the presently known tectonic framework.

For the deterministic analysis, peak horizontal ground accelerations resulting from potential earthquakes on known active faults were estimated using the EQFAULT computer program (Blake, 1995). Computations were performed using the attenuation relationship developed by Boore et al. (1993) for a site with "soil" conditions.

Based on the analysis, the Sierra Madre fault, located approximately 500 feet north of the site, is potentially capable of producing the greatest PGA at the site, due to its proximity and MCE magnitude of 7.0 (M_W). It is estimated that such an earthquake on this fault near the site could produce seismic shaking with a maximum-credible PGA of 0.71g. The results of the deterministic analysis are presented in Appendix D.

2.5 Secondary Seismic Hazards

2.5.1 Liquefaction

The site is not located in an area mapped as liquefiable on the Seismic Hazards Zone Map for the Pasadena Quadrangle (CDMG, 1998).

Liquefaction is a seismic phenomenon, in which loose, saturated, granular soils temporarily behave similarly to a viscous fluid when subjected to high intensity ground shaking. Liquefaction can occur when three general conditions exist: 1) shallow ground water, 2) low density silty or fine sandy soils, and 3) high intensity ground motion. The absence of low density soils and shallow ground water conditions indicate that the potential for liquefaction is very low.

The site is not located in an area mapped as susceptible to seismically induced slope failure.

2.6 Soil Compressibility

Based on our field investigation and laboratory test results, the undocumented artificial fill and the upper alluvial soil deposits are generally considered moderately compressible.

These soils may undergo a degree of consolidation as a result of the placement of fill, depending on the location and thickness of fill, or as a result of foundation loading. The results of a laboratory consolidation test on the undocumented fill is presented in Appendix C.

2.7 Expansion Index

Based upon our visual and laboratory classification the relatively granular soils onsite are expected to exhibit a very low expansion potential

2.8 Strength Characteristics

A direct shear test conducted on a remolded soil sample obtained from the gym area was run to evaluate the strength characteristics of the near-surface soil. The result of this laboratory test is presented in Appendix C.

2.9 Soluble Sulfates

Water-soluble sulfates in soil can react adversely with concrete. However, concrete structures in contact with soils containing sulfate concentrations of less than 0.10 percent are considered to have negligible sulfate exposure (UBC, 1997 edition, Chapter 19).

A representative sample of the near-surface soil was tested for water-soluble sulfates. The result of this test indicates that the soluble-sulfate content in the onsite soil is less than 0.01 percent by weight.

2.10 Resistivity and pH

Soil resistivity and pH give an indication of the potential of the soil to be corrosive to ferrous metals. Electrical resistivity of soils is a measure of the resistance to corrosion currents. Following Ohm's Law, corrosion currents tend to be lower in high resistivity soils. A commonly accepted correlation between soil electrical resistivity and corrosivity, with respect to ferrous metals, is presented below:

Less than 1,000 ohm-cm	Severely Corrosive
1,000 to 2,000 ohm-cm	Corrosive
2,000 to 10,000 ohm-cm	Moderately Corrosive
Over 10,000 ohm-cm	Mildly Corrosive

A representative soil sample was tested to determine the minimum resistivity and the pH. The minimum resistivity of the sample was approximately 8,095 ohm-cm. The pH of the sample was approximately 7.0. The results of these tests indicate that soils onsite are considered to be moderately corrosive to ferrous metals.

3.0 CONCLUSIONS

3.1 General Conclusions

Based on the findings of this investigation, it is our opinion that the proposed development is feasible from a geotechnical standpoint. We have found no significant geologic or soils-related constraints during the course of this investigation that cannot be mitigated by proper design and construction practices.

It is our judgment based upon the specific data and information contained or referenced in this report, that the proposed development will be safe against the hazard from landslides, settlement or slippage and the grading will not adversely affect the stability of adjacent properties provided the recommendations presented herein are correctly implemented.

Specific conclusions are presented below.

3.1.1 Compressible Soils - Based on this investigation, the undocumented artificial fill and upper alluvial soil deposits are generally considered moderately compressible and are expected to undergo consolidation settlement, depending on the thickness of fill placement and the magnitude of foundation loads. Partial removal and recompaction of the existing soils will be required to reduce the potential for excessive total and differential settlement.

3.1.2 Foundation Support - Based on this investigation, the proposed buildings can be supported on shallow foundations provided the subgrade soils are treated in a such a manner as to provide uniform foundation support.

3.1.3 Oversized Materials - Oversized materials (greater than 8 inches in size) will be encountered during grading and construction of the gym. The oversized material will require special consideration when utilized in fill. Recommendations for oversized material handling are presented in Section 4.4.

3.1.4 Ground Water - Ground water was not encountered during our subsurface investigation. Ground water is expected to be present beneath the site at depths in excess of 200 feet.

3.1.5 Seismicity - The Sierra Madre fault is located immediately north of the site. A detailed investigation of the site did not expose active faults within the area of the proposed gym (ECI, 1999). Southern California is a seismically active region and significant seismic shaking could impact the site in the near future. Results of our deterministic seismic analyses are presented in Appendix D. A summary of our findings and UBC seismic parameters are presented in Section 4.5.

3.1.6 Secondary Seismic Hazards - Based on our review and analysis, the site is not located in an area mapped as susceptible to liquefaction or seismically induced slope failures. The probability for ground fracture-induced structural damage at the site is difficult to predict, but is estimated to be low.

3.1.7 Expansion Potential - Based upon our visual and laboratory classification the relatively granular soils onsite are expected to exhibit a very low expansion potential

3.1.8 Sulfate Attack - Based on our laboratory testing of representative, near-surface soil samples, concrete in contact with the onsite soil is expected to have negligible exposure to water-soluble sulfates.

3.1.9 Corrosion - The earth materials onsite are expected to be moderately corrosive to ferrous metals.

4.0 RECOMMENDATIONS

4.1 General Earthwork and Grading

All earthwork should be performed in accordance with the General Earthwork and Grading Specifications presented in Appendix E, unless specifically revised or amended below or by future review of project plans.

4.2 Site Preparation

Prior to construction, the site should be cleared of vegetation and debris. Concrete footings, underground structures, pavement and any other obstructions should be removed. The resulting excavations should be properly backfilled and compacted. Efforts should be made to locate any existing utility lines. Those lines should be removed or rerouted if they interfere with the proposed construction. The resulting cavities should be properly backfilled and compacted.

4.3 Overexcavation and Recompaction

Based upon our field investigation, laboratory test results and engineering analysis, the proposed building can be supported on conventional isolated and continuous spread footings. However, in order to reduce the potential for adverse total and differential settlement of the proposed structure, the underlying subgrade soils should be prepared in such a manner that a uniform response to the applied loads is achieved.

We recommend that all undocumented artificial fill be removed until firm native soils are encountered. The depth of undocumented fill is expected to be approximately 10 feet in the south end of the gym becoming shallower to the north. This includes removing the backfill behind the existing southern retaining wall and replacing it with compacted fill. We also recommend that the alluvial soils be overexcavated and recompacted to a depth of at least 3 feet below the bottoms of the proposed footings. The depth of the footings and the elevation required for building overexcavation should be confirmed by the contractor prior to construction. Local conditions may be encountered that require deeper overexcavation. If encountered, such areas should be evaluated by Leighton during grading. The overexcavation and recompaction should extend horizontally a distance away from the outer edges of the footings equal to the depth of the overexcavation, or a minimum of 5 feet, whichever is greater.

We recommend that the parking area, and new open air basketball courts and other hardscape areas be overexcavated to a minimum depth of 18 inches below existing grade or proposed finish grade, whichever is deeper. The area of new retaining walls should be overexcavated to a minimum depth of 2 feet below the bottoms of footings.

After completion of the overexcavation, and prior to fill placement, the exposed surfaces should be scarified to a minimum depth of 6 inches, moisture-conditioned and recompacted to a minimum 90 percent relative compaction.

4.4 Fill Placement and Compaction

The onsite soils are generally suitable for use as compacted structural fill, provided that they are free of oversized material (i.e., greater than 8 inches in the largest dimension), organic material, or construction debris. Any soil to be placed as fill, whether onsite or import material, should be approved by Leighton. All fill soil should be placed in thin, loose lifts, moisture-conditioned (moistened or dried), as necessary, to slightly above optimum moisture content and compacted to a minimum 90 percent relative compaction as determined by ASTM Test Method D1557-91.

Oversized material greater than 8 inches in size should not be placed within 5 feet of finished pad grade. Oversized material may be placed below that depth provided the method and location of placement is specifically accepted by the geotechnical consultant. Placement operations should be such that nesting of oversized materials is minimized and such that oversized material is completely surrounded by compacted or densified fill.

4.5 Seismic Considerations

Seismic parameters presented in this report should be considered during project design. In order to reduce the effects of ground shaking produced by regional seismic events, seismic design should be performed in accordance with the most recent edition of the Uniform Building Code and/or the seismic design parameters per the Structural Engineers Association of California. Additional seismic analyses may be necessary based on structural requirements. The following data should be considered during design of the subject improvements:

Deterministic Seismic Analysis:	
Causative Fault:	Sierra Madre Fault
Distance from the Site:	< 1km
Maximum Credible Earthquake Magnitude (M_w):	7.0
Peak Horizontal Ground Acceleration:	0.71g
UBC (1997) Seismic Parameters:	
Seismic Zone:	4
Seismic Source:	Type B
Soil Profile Type:	S_D
Near Source Factor, Na:	1.3
Near Source Factor, Nv:	1.6

4.6 Preliminary Conventional Spread Footing Recommendations

Either conventional continuous or isolated spread footings founded in firm, compacted fill material (see Section 4.3) should be adequate to support the anticipated loads of the proposed gymnasium. The following minimum design parameters are based on a very low to low expansion potential and should be used for preliminary design. The granular nature of the finished pad soil should be evaluated upon completion of rough grading.

Continuous Footings:

Minimum Footing Depth: (below lowest adjacent grade)	24 inches
Minimum Footing Width:	15 inches
Minimum Footing Reinforcement:	Two No. 4 Rebar, at top and bottom
Allowable Bearing Pressure:	2,000 psf

Isolated Footings:

Minimum Footing Depth: (below lowest adjacent grade)	24 inches
Minimum Footing Width:	24 inches
Minimum Footing Reinforcement:	One No. 5 Rebar, 12 inches on center each way
Allowable Bearing Pressure:	2,250 psf

The allowable bearing value can be increased by 250 psf per foot increase in depth or width to a maximum allowable bearing pressure of 3,000 psf.

The preceding allowable bearing pressures are for the total dead load and frequently applied live loads. These values may be increased by one third when considering loads of short duration such as those imposed by wind and seismic forces.

The soil resistance available to withstand lateral loads on shallow foundations is a function of the frictional resistance which will develop along the base of the foundation and the passive resistance that may develop as the face of the structure tends to move into the soil. The allowable frictional resistance between the base of the foundation and the subgrade soils may be computed using a coefficient of friction of 0.35.

The allowable passive resistance may be computed using an equivalent fluid pressure of 300 pcf, assuming there is intimate contact between the footing and undisturbed soil.

4.7 Existing Retaining Wall

If the existing retaining wall south of the proposed gym is to remain in place, the structural integrity of the wall should be confirmed. Additional loads from the new gymnasium and associated improvements should not be distributed to the wall unless the adequacy of the wall to support those loads is confirmed.

4.8 Settlement

The recommended allowable bearing capacity for conventional continuous and isolated spread footings founded on artificial fill is generally based on a total settlement of 1.0 inch. Differential settlement is estimated at ½ inch over a horizontal distance of 30 feet. Since settlement is a function of footing size and contact bearing pressure, differential settlement can be expected between adjacent columns or walls where a large differential loading condition exists. These settlement estimates should be reviewed by Leighton when foundation plans and loads for the proposed structures become available.

4.9 Retaining Structures

The design of earth retaining structures should consider the lateral earth pressures exerted by surrounding soils. The lateral earth pressures presented in this section are equivalent fluid pressures. They are based on the assumption that the structures will be provided with adequate drainage, such that no hydrostatic forces will build up behind the walls. These values do not contain an appreciable factor of safety, so the structural engineer should apply the applicable factors of safety and/or load factors during design.

Cantilever walls that are designed to yield at least 0.001H, where H is equal to the wall height, can be designed using the active condition. Rigid walls and walls braced at the top should be designed using the at-rest condition.

Passive pressure is used to compute lateral soil resistance to lateral structural movement. In addition, for sliding resistance, a frictional resistance coefficient of 0.35 may be used at the concrete and soil interface. The lateral passive resistance should be taken into account only if it is ensured that the soil providing passive resistance, embedded against the foundation elements, will remain intact with time.

We recommend that retaining walls be backfilled and constructed with a backdrain in accordance with the recommendations provided on Figure 3 (rear of text). The following equivalent fluid pressure recommendations are based on the assumption that a granular backfill exhibiting a sand equivalent of 30 or greater will be utilized.

Equivalent Fluid Pressure

	Level Backfill
Active Earth Pressure	40 pcf
Passive Earth Pressure	300 pcf with a maximum value of 3,000 psf
At-Rest Earth Pressure	60 pcf

In addition to the above lateral forces from retained earth, lateral forces from other superimposed loads, such as those from adjacent structures or vehicles, should be added, if the loads fall within a 1:1 projection from the heel of the retaining wall footing.

Retaining wall footings should have a minimum width of 2 feet and a minimum embedment of 18 inches below the lowest adjacent grade. Based on these criteria, retaining wall footings may be designed using an allowable bearing capacity of 2,000 psf. This value can be increased 250 psf for each additional foot of width or embedment to a maximum value of 3,000 psf.

The total depth of retained earth for design of cantilever walls should be the vertical distance below the ground surface measured at the wall face for stem design or measured at the heel of the footing for overturning and sliding. A soil unit weight of 120 pcf may be assumed for calculating the weight of the soil over the wall footing.

4.10 Slab-On-Grade

Concrete slabs subjected to special loads should be designed by the structural engineer. Where conventional light floor loading conditions exist, the following minimum recommendations, which are based on a very low to low expansion potential, should be used:

- A minimum slab thickness of 5 inches (nominal), reinforced with a minimum of No. 3 Rebar placed at 18 inches on center in each direction and placed in the middle third of the slab thickness.

- A moisture barrier consisting of 6-mil Visqueen placed below slabs where moisture-sensitive floor coverings or equipment are planned. The moisture barrier should be placed on top of a minimum of 2 inches of sand and should be covered with a minimum of 2 inches of sand.

- The subgrade soil should be moisture conditioned to a minimum of 4 percent over optimum moisture content to a minimum depth of 12 inches prior to placing Visqueen, steel or concrete.

Minor cracking of the concrete as it cures, due to drying and shrinkage, is normal and should be expected. However, cracking is often aggravated by a high water/cement ratio, high concrete temperature at the time of placement, small nominal aggregate size, and rapid moisture loss due to hot, dry, and/or windy weather conditions during placement and curing. Cracking due to temperature and moisture fluctuations can also be expected. The use of low slump concrete (not exceeding 4 inches at the time of placement) can reduce the potential for shrinkage cracking. Additionally, our experience indicates that the use of reinforcement in slabs and foundations can generally reduce the potential for concrete cracking.

To reduce the potential for excessive cracking, concrete slabs-on-grade should be provided with construction or weakened plane joints at frequent intervals. Joints should be laid out to form approximately square panels.

Moisture barriers can retard, but not eliminate moisture vapor movement from the underlying soils up through the slab. We recommend that the floor coverings contractor test the moisture vapor flux rate prior to attempting application of moisture-sensitive flooring. "Breathable" floor covering or special slab sealants should be considered if the vapor flux rates are high. Floor covering manufacturers should be consulted for specific recommendations.

These are minimum recommendations. More stringent requirements may be required by local agencies, the structural engineer, the architect, or the Uniform Building Code.

4.11 Cement Type and Corrosion Protection

Based on the results of laboratory testing, concrete structures in contact with the onsite soils will be exposed to negligible concentrations of soluble sulfates in the soil. Common Type II cement should be adequate.

The onsite soils are considered moderately corrosive to ferrous metal.

4.12 Earthwork Shrinkage and Bulking

The change in volume of excavated materials upon recompaction as fill varies according to soil type and density. This volume change is represented as a percentage increase (bulking) or decrease (shrinkage) in volume of fill after removal and recompaction. Field observations and in-situ density tests are used in comparison with laboratory-measured maximum dry density for selected soil types encountered at the site to estimate the change in volume resulting from grading operations. Based on these data, we estimate an average compaction shrinkage in the range of 5 to 10 percent for the near-surface, onsite native soils. The undocumented artificial fill onsite is expected to shrink in the range of 10 to 15 percent during placement as compacted fill.

Loss of volume resulting from removal of oversized materials should also be considered. Rock will probably be removed from the fill as a result of construction.

4.13 Preliminary Pavement Design

Based upon visual and laboratory soil classification, we estimate the R-value of the parking lot area to be approximately 45. Based on the design procedures outlined in the current Caltrans Highway Design Manual, and using a design R-value of 45 for subgrade and 78 for aggregate base course, we recommend the following preliminary flexible pavement sections for a TI=5.

- TI = 5.0 or less

  0.25-foot asphaltic concrete over 0.35 foot Crushed Aggregate Base

Final pavement design should be based on R-value test results of representative subgrade soil samples collected during construction of the parking lot subgrade.

All pavement construction should be performed in accordance with the Standard Specifications for Public Works Construction. Field inspection and periodic testing, as needed during placement of the base course materials, should be undertaken to ensure that the requirements of the standard specifications are fulfilled. Prior to placement of aggregate base, the subgrade soils should be processed to a minimum depth of 6 inches, moisture-conditioned, as necessary, and recompacted to a minimum of 90 percent relative compaction. Aggregate base should be moisture conditioned, as necessary, and compacted to a minimum of 95 percent relative compaction.

4.14 Temporary Excavations

All temporary excavations, including utility trenches, retaining wall excavations and other excavations, should be performed in accordance with project plans, specifications and all OSHA requirements.

No surcharge loads should be permitted within a horizontal distance equal to the height of cut or 5 feet, whichever is greater from the top of the excavation unless the cut is shored appropriately. Excavations that extend below an imaginary plane inclined at 45 degrees below the edge of any adjacent existing structure should be properly shored to maintain support of the structures.

Typical cantilever shoring should be designed based on the active fluid pressure presented in the Lateral Earth Forces section. If excavations are braced at the top and at specific design intervals, the active pressure may then be approximated by a rectangular soil pressure distribution with the pressure per foot of width equal to 30H, where H is equal to the depth of the excavation being shored.

During construction, the soil conditions should be regularly evaluated to verify that conditions are as anticipated. The contractor should be responsible for providing the "competent person" required by OSHA standards to evaluate soil conditions. Close coordination between the competent person and the geotechnical engineer should be maintained to facilitate construction while providing safe excavations.

4.15 Trench Backfill

Utility-type trenches onsite may be backfilled with the onsite material, provided it is free of debris, organic and oversized material. Prior to backfilling the trench, the pipe should be bedded in an imported granular material that has a sand equivalent of 30 or greater. The pipe bedding should be densified in-place by jetting. The native backfill should be placed in thin lifts, moisture-conditioned, as necessary, and mechanically compacted using a minimum standard of 90 percent relative compaction.

4.16 Surface Drainage

Surface drainage should be directed away from foundations and toward approved drainage devices. Irrigation of landscaping should be controlled to maintain, as much as possible, a consistent moisture content sufficient to provide healthy plant growth without overwatering.

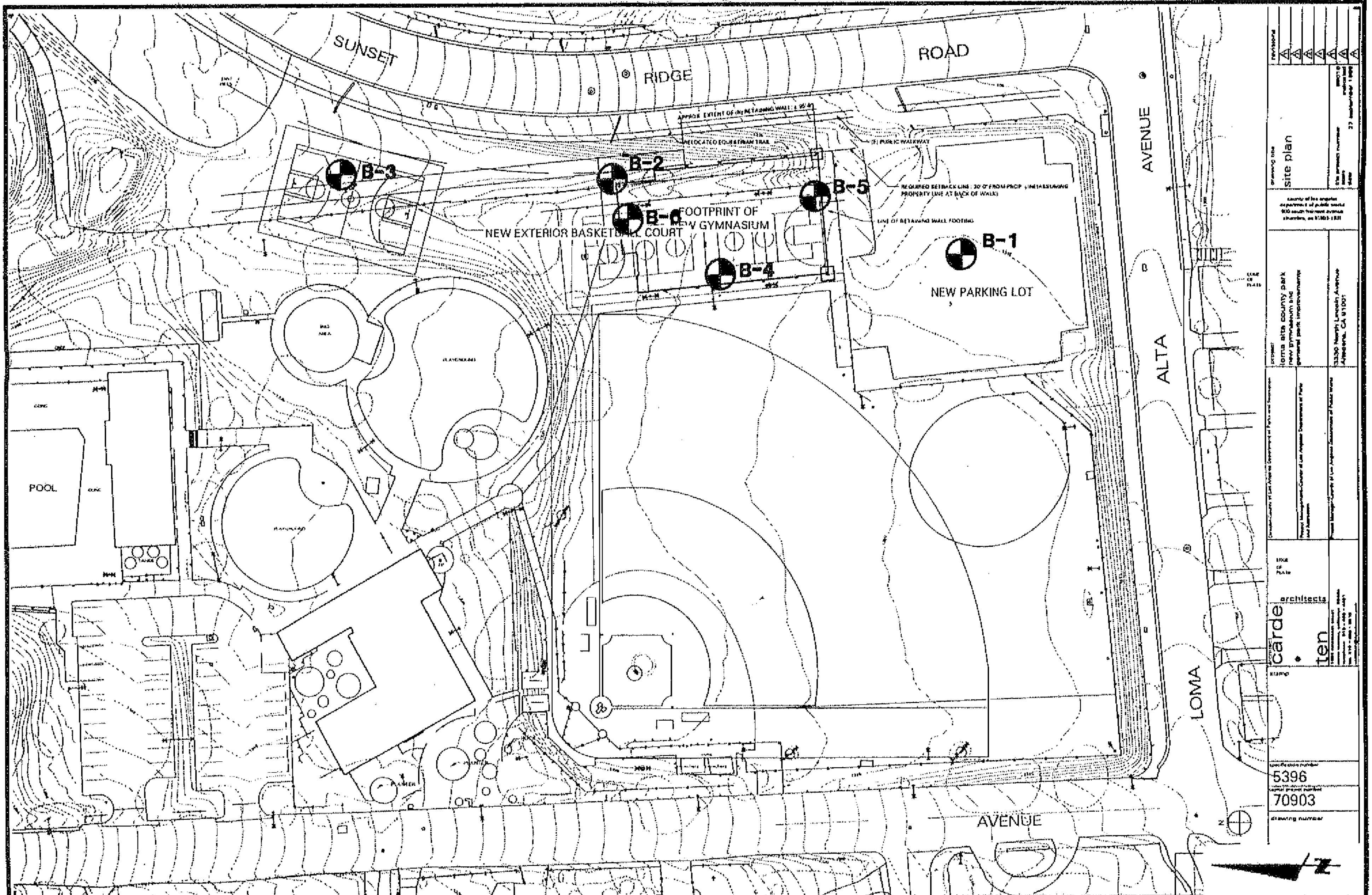
4.17 Additional Geotechnical Services

The geotechnical recommendations presented in this report are based on subsurface conditions as interpreted from limited exploratory borings and test pits. Leighton should review the final project plans and specifications when available to comment on the geotechnical aspects. Our recommendations should be revised, as necessary, based on future plans and incorporated into the final design plans and specifications. We should also be present to observe and verify the geotechnical conditions during construction, in order to recommend appropriate changes, if conditions differ from those anticipated at this time.

The recommendations presented in this report are only valid if Leighton verifies the site conditions during grading and construction. Leighton should prepare a final geotechnical report summarizing the geotechnical conditions encountered and any field modifications of recommendations.

Geotechnical consultation, observation and testing services should be provided:

- During site clearing.
- During overexcavation of compressible soils.
- During compaction of all fill materials.
- After excavation of footings and prior to placement of steel or concrete to confirm the footings have been excavated into competent soil.
- During utility trench excavation, backfilling and compaction.
- During pavement subgrade and base preparation.
- When any unusual conditions are encountered.



Boring Location Map

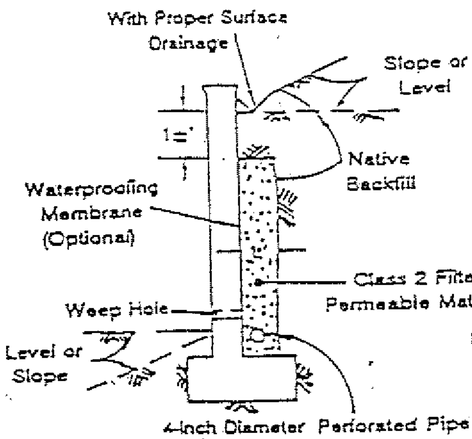
Proposed Gymnasium
Loma Alta Park
Loma Alta Drive and Lincoln Avenue
Altadena Area, Los Angeles County, California

PROJECT NO.	2990002-001
SCALE	
ENGR./GEOL.	DCS/PB
DRAFTED BY	
DATE	1/31/00

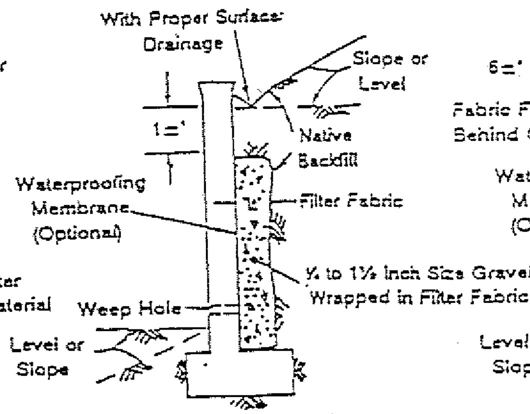
FIGURE NO. 2

SUBDRAIN OPTIONS FOR NATIVE MATERIAL BACKFILL

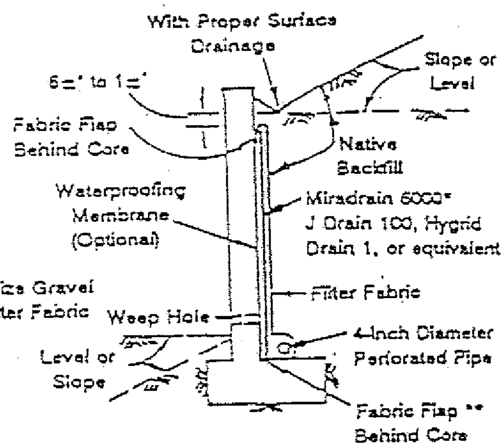
OPTION N2: Pipe Surrounded with Class 2 Material



OPTION N1: Gravel Wrapped in Filter Fabric



OPTION N3: Geotextile Drain



Class 2 Filter Permeable Material Grading
Per Caltrans Specifications

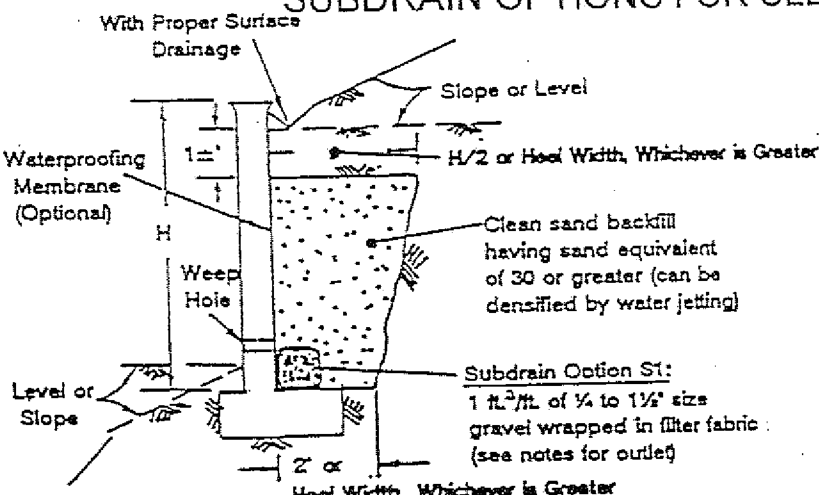
Sieve Size	Percent Passing
1"	100
3/4"	90-100
3/8"	40-100
No. 4	25-40
No. 8	18-33
No. 30	5-15
No. 50	0-7
No. 200	0-3

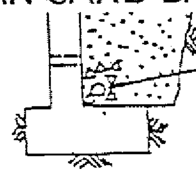
Proper Outlet Should be Provided for Gravel Subdrain (See Notes)

*Miradrain 6000 or J Drain 100 for non-waterproofed walls; Miradrain 6200 or J Drain 200 for completed waterproofed walls

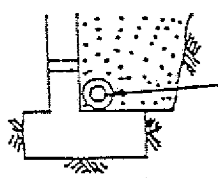
**Peel back the bottom fabric flap, place pipe next to core, wrap fabric around pipe and tuck behind core.

SUBDRAIN OPTIONS FOR CLEAN SAND BACKFILL





Subdrain Option S2:
4" diameter perforated pipe surrounded with 1 ft.³/ft. of Class 2 filter material per Caltrans specifications as above



Subdrain Option S3 for Corrugated Pipes Only:
4" diameter corrugated perforated pipe wrapped in filter fabric (this option should not be used for non-corrugated, smooth pipes because fine particle earth materials may accumulate at the perforated holes and reduce the flow of water into the pipe)

Notes:

- Pipe type should be ASTM D1527 Acrylonitrile Butadiene Styrene (ABS) SDR35 or ASTM D1785 Polyvinyl Chloride plastic (PVC), Schedule 40, Armco A2000 PVC, or approved equivalent. Pipe should be installed with perforations down.
- Filter fabric should be Mirafi 140N, 140NS, Supac 4NP, Amoco 4545, Trevira 1114, or approved equivalent.
- All drains should have a gradient of 1 percent minimum.
- Outlet portion for gravel subdrain should have a 4"-diameter pipe with the perforated portion inserted into the gravel approximately 2' minimum and the nonperforated portion extending approximately 1' outside the gravel. Proper sealing should be provided at the pipe insertion enabling water to run from the gravel portion into rather than outside the pipe.
- Waterproofing membrane may be required for a specific retaining wall such as a stucco or basement wall.
- Weephole should be 2" minimum diameter and provided at 25' minimum in length of wall. If exposure is permitted, weephole should be located at 3±" above finished grade. If exposure is not permitted such as for a wall adjacent to a sidewalk/curb, a pipe under the sidewalk to discharge through the curb face or equivalent should be provided, or for a basement-type wall, a proper subdrain outlet system should be provided. Open vertical masonry joints (i.e., omit mortar from joints of first course above finished grade) at 32" maximum intervals may be substituted for weepholes. Screening such as with a filter fabric should be provided for weepholes/open joints to prevent earth materials from entering the holes/joints.

RETAINING WALL BACKFILL AND SUBDRAIN DETAIL

Figure No. 3

3067 292

APPENDIX A

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GEOTECHNICAL BORING LOG B-1

Date: 1-7-00 | Sheet 1 of 1
Project: Loma Alta Park | Project No.: 2990002-002
Drilling Co.: 2R Drilling, Inc. | Type of Rig: Hollow Stem
Hole Diameter: 8" | Drive Weight: 140 lb | Drop: 30 in.
Elevation Top of Hole (ft): | Location: See Boring Location Map

Logged By: JDH
Sampled By: JDH

Elevation (Feet)	Depth (Feet)	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density (pcf)	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION
	0								**ARTIFICIAL FILL**
				R-1	41	128.8	8.5		Silty sand, trace clay, trace fine gravel, fine to coarse sand, orangish-brown, medium dense to dense, slightly moist to moist.
	5			R-2	90/11"	124.5	7.3		Same as above; orangish-brown, moist, very dense, fine to coarse gravel.
									Same as above; color grades to dark grayish-brown.
				R-3	80	129.0	2.7		
	10			R-4	62	133.3	4.9		**ALLUVIUM** Same as above; dense.
									TOTAL DEPTH: 11.5 feet Boring backfilled with native soil.
	15								
	20								
	25								
	30								

SAMPLE TYPES: B=Bulk, R=Ring (2.5"), S=SPT, T=Tube

Leighton and Associates

GEOTECHNICAL BORING LOG B-2

Date	1-7-00	Sheet 1 of 1	
Project	Loma Alta Park	Project No.	2990002-002
Drilling Co.	2R Drilling, Inc.	Type of Rig	Hollow Stem
Hole Diameter 8"	Drive Weight 140 lb	Drop	30 in.
Elevation Top of Hole (ft)	Location: See Boring Location Map		

Logged By: JDH
Sampled By: JDH

Elevation (Feet)	Depth (Feet)	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density (pcf)	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION
	0								ALLUVIUM
				R-1	78/10"				Silty sand, trace fine gravel, fine to coarse sand, orangish-brown, slightly moist, very dense.
	5			R-2	59				No recovery.
				R-3	46				No recovery.
	10			R-4	26				Rock in tip, silty sand, orangish-brown matrix, no other recovery.
	15			R-5	70				Silty sand to silty gravel, light gray to brown, moist, fine to coarse sandy gravel, dense.
	20			R-6	66				Same as above.
									TOTAL DEPTH: 21.0 feet Boring backfilled with native soil.
	25								
	30								

SAMPLE TYPES: B=Bulk, R=Ring (2.5"), S=SPT, T=Tube

Leighton and Associates

GEOTECHNICAL BORING LOG B-3

Date 1-7-00 | Sheet 1 of 1
Project Loma Alta Park | Project No. 2990002-002
Drilling Co. 2R Drilling, Inc. | Type of Rig Hollow Stem
Hole Diameter 8" | Drive Weight 140 lb | Drop 30 in.
Elevation Top of Hole (ft) | Location See Boring Location Map

Logged By JDH
Sampled By JDH

Elevation (Feet)	Depth (Feet)	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density (pcf)	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION
	0								ARTIFICIAL FILL
				R-1	38	123.9	8.3		Silty sand, trace clay, some fine gravel, orangish-brown, moist, medium dense.
									ALLUVIUM
	5			R-2	41	125.4	4.1		Same as above; color grades to pale brown.
				R-3	20		7.0		Silty sand with gravel, light orangish-brown, moist, medium dense, fine to coarse sandy gravel. Color grades to dark brown, more silt.
	10			R-4	57		7.2		Silty gravel, brown, fine to coarse sand and gravel, medium dense.
									TOTAL DEPTH: 11.5 feet Boring backfilled with native soil.
	15								
	20								
	25								
	30								

SAMPLE TYPES: B=Bulk, R=Ring (2.5"), S=SPT, T=Tube

Leighton and Associates

GEOTECHNICAL BORING LOG B-4

Date 1-7-00 | Sheet 1 of 1
Project Loma Alta Park | Project No. 2990002-002
Drilling Co. 2R Drilling, Inc. | Type of Rig Hollow Stem
Hole Diameter 8" | Drive Weight 140 lb | Drop 30 in.
Elevation Top of Hole (ft) | Location See Boring Location Map

Logged By JDH
Sampled By JDH

Elevation (Feet)	Depth (Feet)	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density (pcf)	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION
	0								**ARTIFICIAL FILL** 4" AC/ 3" Base
				R-1	26	124.2	5.0		Silty sand with gravel, fine to coarse sandy gravel, pale orangish-brown, moist, medium dense.
	5			R-2	13	113.2	6.9		Same as above; more silt.
				R-3	8	107.2	7.7		**ALLUVIUM/ TOPSOIL** Silty sand with gravel, fine to medium sand, fine to coarse gravel, dark brown, moist, loose. Weathered.
	10			R-4	50	117.8	5.4		Same as above; brown, medium dense.
									Encountered rocks.
	15			R-5	73/10"				Rock in tip, silty sand matrix, light gray.
									Refusal - rocks.
									TOTAL DEPTH: 17.0 feet Boring backfilled with native soil.
	20								
	25								
	30								

SAMPLE TYPES: B=Bulk, R=Ring (2.5"), S=SPT, T=Tube

Leighton and Associates

GEOTECHNICAL BORING LOG B-5

Date 1-7-00 | Sheet 1 of 1
Project Loma Alta Park | Project No. 2990002-002
Drilling Co. 2R Drilling, Inc. | Type of Rig Hollow Stem
Hole Diameter 8" | Drive Weight 140 lb | Drop 30 in.
Elevation Top of Hole (ft) | Location See Boring Location Map

Logged By JDH
Sampled By JDH

Elevation (Feet)	Depth (Feet)	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density (pcf)	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION
	0								5" AC / 5" Base **ARTIFICIAL FILL**
				R-1	20	121.8	7.4		Silty sand with gravel, fine to medium sand, fine gravel, brown, moist, medium dense.
	5			R-2	15	108.0	7.1		Silty sand with gravel, fine to coarse sand, fine gravel, light brown-gray, moist, loose.
				R-3	6	84.2	30.6		Same as above; more silt, less gravel, very loose; 2" layer of sandy silt, brown, very moist.
	10			R-4	31				**ALLUVIUM**
	15			S-5	21				Silty sand with gravel, light brown/ tan, moist.
									TOTAL DEPTH: 16.5 feet Boring backfilled with native soil.
	20								
	25								
	30								

SAMPLE TYPES: B=Bulk, R=Ring (2.5"), S=SPT, T=Tube

Leighton and Associates

GEOTECHNICAL BORING LOG B-6

Date 1-7-00 — Sheet 1 of 1

Project Loma Alta Park — Project No. 2990002-002

Drilling Co. 2R Drilling, Inc. — Type of Rig Hollow Stem

Hole Diameter 8" — Drive Weight 140 lb — Drop 30 in.

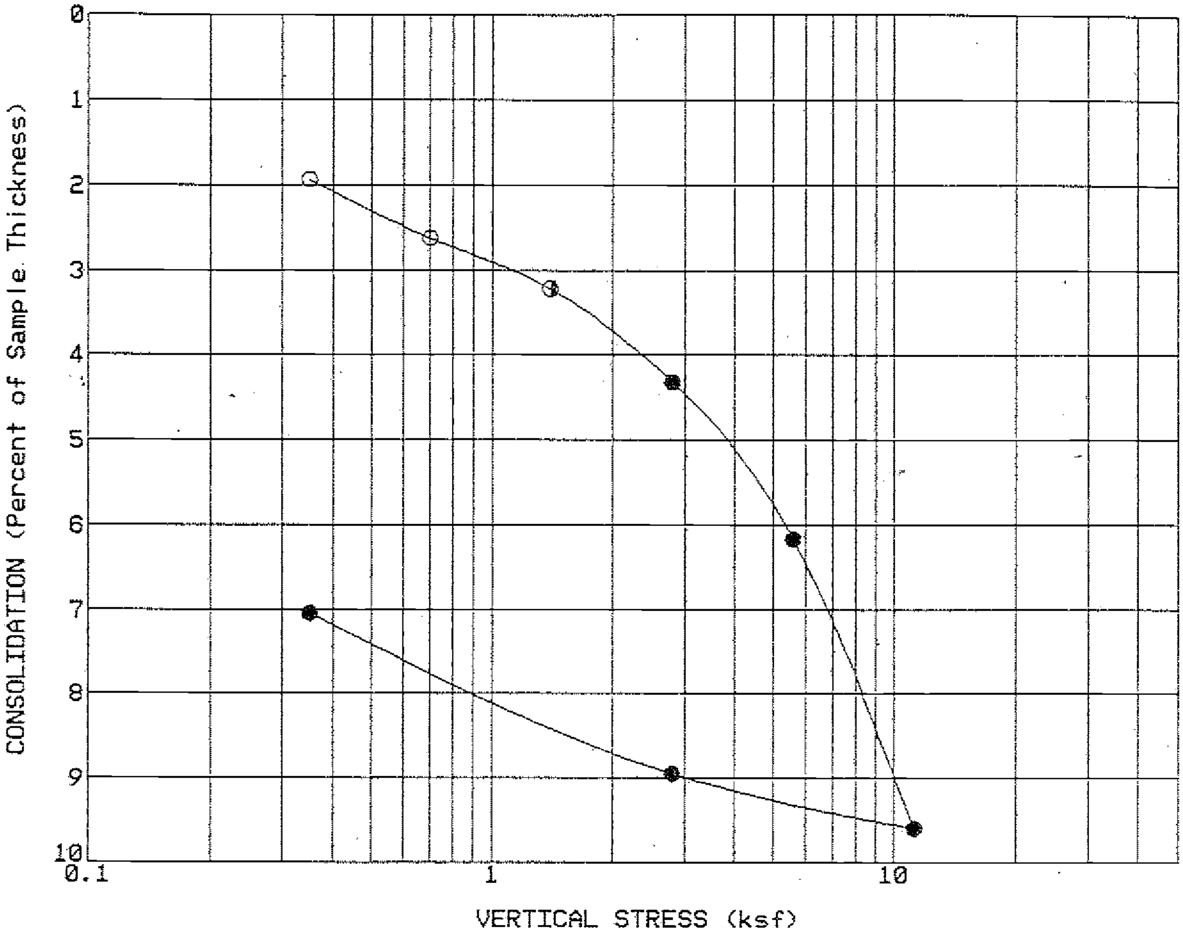
Elevation Top of Hole (ft) — Location See Boring Location Map

Logged By JDH

Sampled By JDH

Elevation (Feet)	Depth (Feet)	Graphic Log	Attitudes	Sample No.	Blows Per Foot	Dry Density (pcf)	Moisture Content, %	Soil Class. (U.S.C.S.)	DESCRIPTION
	0								**ARTIFICIAL FILL**
				R-1	36	123.2	1.4		Silty sand with gravel/ cobbles (3-4"), fine to coarse sand/ gravel, orangish-brown, moist, medium dense.
									ALLUVIUM
	5			S-2	6				Same as above; no cobbles, loose.
									Grades to dark brown, more silt.
	10			S-3	38				Silty gravel, fine to coarse sandy gravel, light gray, slightly moist to moist, dense.
									Encountered rocks.
									Refusal at 14.0'.
	15								TOTAL DEPTH: 14.0 feet Boring backfilled with soil cuttings.
	20								
	25								
	30								

SAMPLE TYPES: B=Bulk, R=Ring (2.5"), S=SPT, T=Tube



LEGEND: ○ At Field Moisture
● After Addition of Water

Log No.	B-5	Initial Dry Density (pcf)	83.8
Sample No.	R-1	Moisture Content (%):	
Depth (ft)	7.0	Before	35.7
Soil Type	CL	After	32.9
Soil Description	Brn Sa Si Clay		

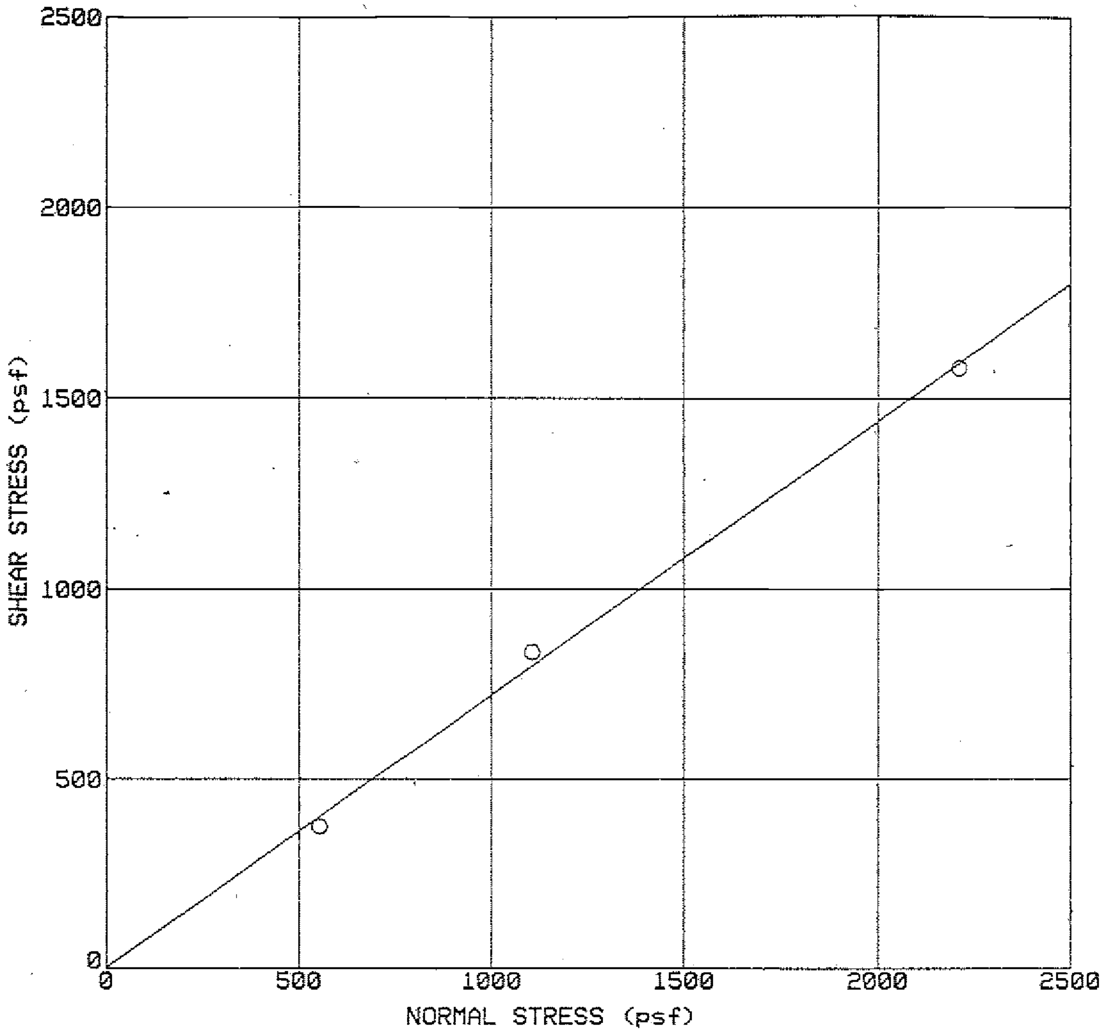
CONSOLIDATION CURVE

ASTM D 2435-80

Project No. 2990002-002

Project Name Loma Alta Park, Altadena

Date 1/31/00 Figure No. C-1



Log No.	B-5	After Test:	
Sample No.	Bag 1	Dry Density (pcf)	119
Depth (ft)	2.0	Moisture Content (%):	12.5
Soil Type	SM		
Remarks	Remolded to 90%RC; Relax Strength; Brn Si Sand		

Friction Angle (deg.) 36

Cohesion (psf) 0

DIRECT SHEAR

ASTM D 3080-90

Project No. 2990002-002

Project Name Loma Alta Park, Altadena

Date 1/31/00 Figure No. C-2

ERATEST LABS, INC.

COMPACTION TEST

ASTM D 1557

Project Name: Loma Alta
Project No. : 2990002-002
Boring No.: B-2
Sample No. : Bag 2-1
Visual Sample Description: or brn si sa w/ trace of gra

Tested By : ERS
Depth (ft.) 0-5'
Scalp Fraction(%)
+No.4 X +3/4"
Comments:

Preparation Method: [ ] Moist [X] Dry [X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft^3) 0.03322 *Ram Weight 10 LBS Drop 18 inches*

Water added

TEST NO.	1	2	3	4	5	6
Wt. Comp. Soil + Mold (gm.)	4018.0	3952.0	3918.0	3795.0		
Wt. of Mold (gm.)	1866.0	1866.0	1866.0	1866.0		
Net Wt. of Soil (gm.)	2152.0	2086.0	2052.0	1929.0		
Wet Wt. of Soil + Cont. (gm.)	412.50	400.90	399.20	410.0		
Dry Wt. of Soil + Cont. (gm.)	385.30	367.90	381.40	399.0		
Wt. of Container (gm.)	54.30	50.60	52.10	50.10		
Moisture Content (%)	8.2	10.4	5.4	3.2		
Wet Density (pcf)	142.8	138.4	136.2	128.0		
Dry Density (pcf)	132.0	125.4	129.2	124.1		

Maximum Dry Density (pcf) 133.0 **Optimum Moisture Content (%)** 7.5

PROCEDURE USED

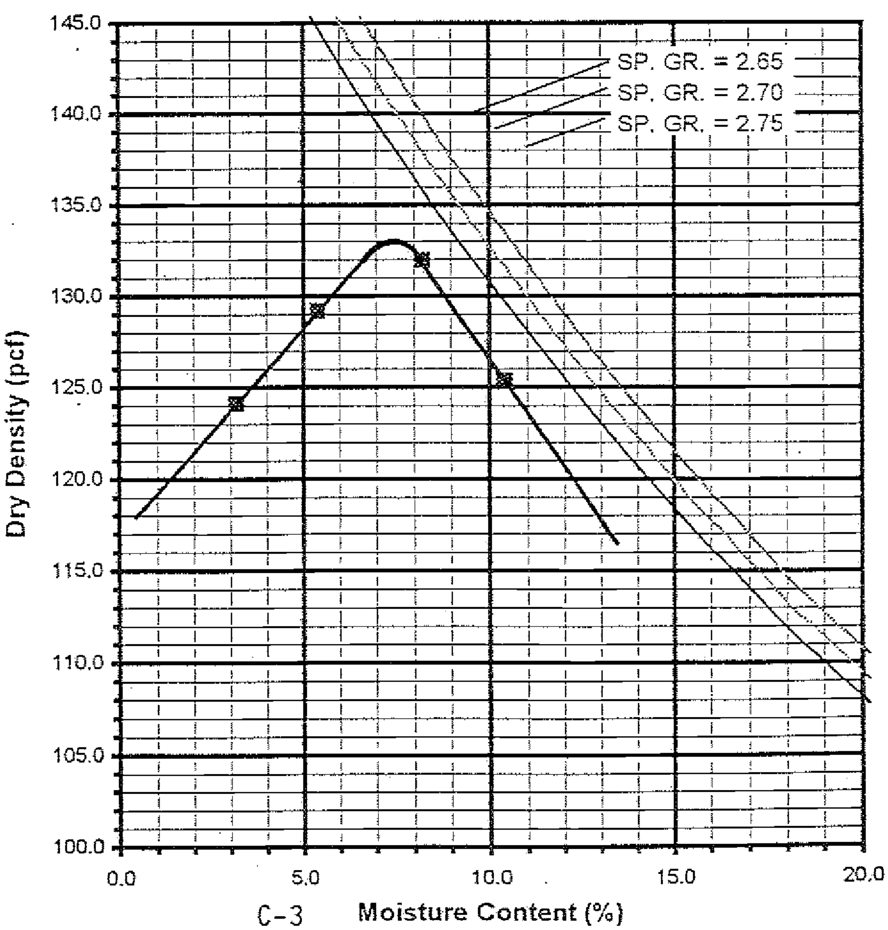
[X] Procedure A
Soil Passing No. 4 (4.75 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
May be used if No.4 retained < 20%

[ ] Procedure B
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold : 4 in. (101.6 mm) diameter
Layers : 5 (Five)
Blows per layer : 25 (twenty-five)
Use if + #4 > 20% and - 3/8 " < 20%

[ ] Procedure C
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold : 6 in. (152.4 mm) diameter
Layers : 5 (Five)
Blows per layer : 56 (fifty-six)
Use if + 3/8 in >20% and + ¾ in <30%

Particle-Size Distribution:

Atterberg Limits:



ERATEST ABS. NC.

COMPACTION TEST

ASTM D 1557

Project Name: Loma Alta Park
Project No.: 990002-002
Boring No.: B-5
Sample No.: Bag 5-1
Visual Sample Description: brn si sa w/ gravel

Tested By: JHW
Depth (ft.) 0-5'
Scalp Fraction(%)
+No.4 X +3/4"
Comments:

Preparation Method: [ ] Moist [X] Dry

[X] Mechanical Ram [ ] Manual Ram

Mold Volume (ft³) 0.03322 Ram Weight 10 LBS Drop 18 inches

TEST NO.	1	2	3	4	5	6
Water added						
Wt. Comp. Soil + Mold (gm.)	4010.0	3928.0	3942.0	3828.0		
Wt. of Mold (gm.)	1866.0	1866.0	1866.0	1866.0		
Net Wt. of Soil (gm.)	2144.0	2062.0	2076.0	1962.0		
Wet Wt. of Soil + Cont. (gm.)	537.20	574.40	603.30	585.40		
Dry Wt. of Soil + Cont. (gm.)	498.10	522.50	570.90	565.60		
Wt. of Container (gm.)	50.20	53.60	51.60	51.10		
Moisture Content (%)	8.7	11.1	6.2	3.8		
Wet Density (pcf)	142.3	136.8	137.8	130.2		
Dry Density (pcf)	130.9	123.2	129.7	125.4		

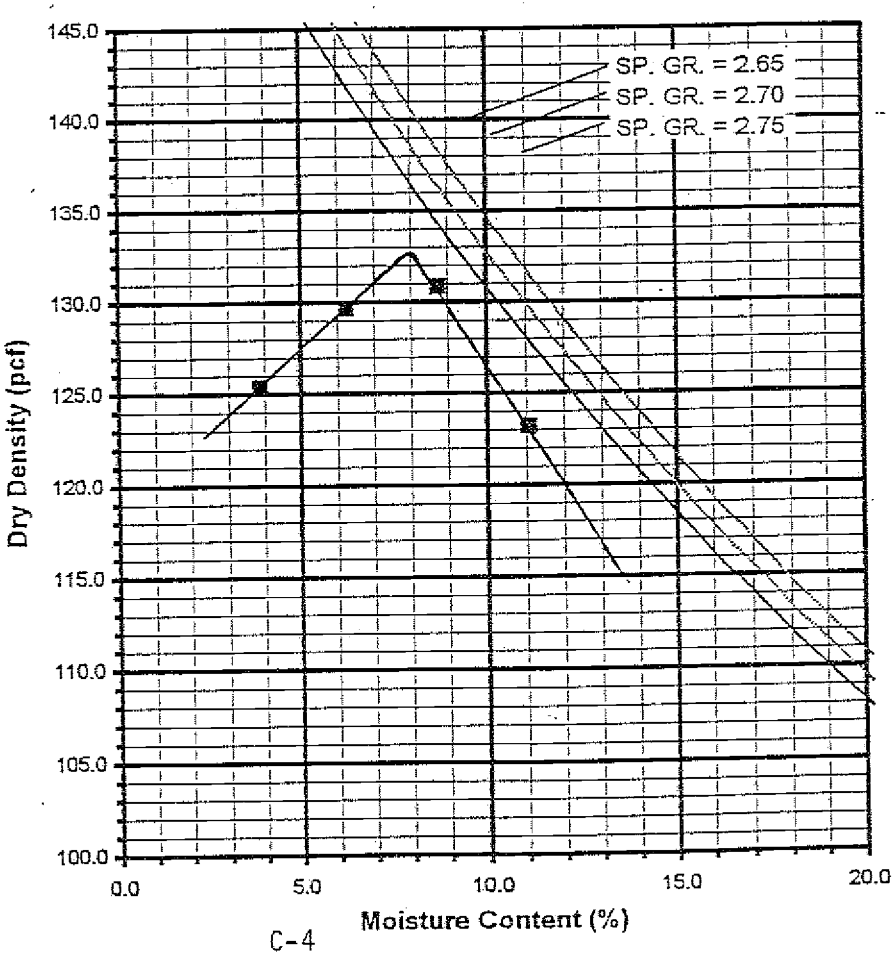
Maximum Dry Density (pcf) 132.5 **Optimum Moisture Content (%)** 8.0

PROCEDURE USED

[ ] **Procedure A**
Soil Passing No. 4 (4.75 mm) Sieve
Mold: 4 in. (101.6 mm) diameter
Layers: 5 (Five)
Blows per layer: 25 (twenty-five)
May be used if No.4 retained < 20%

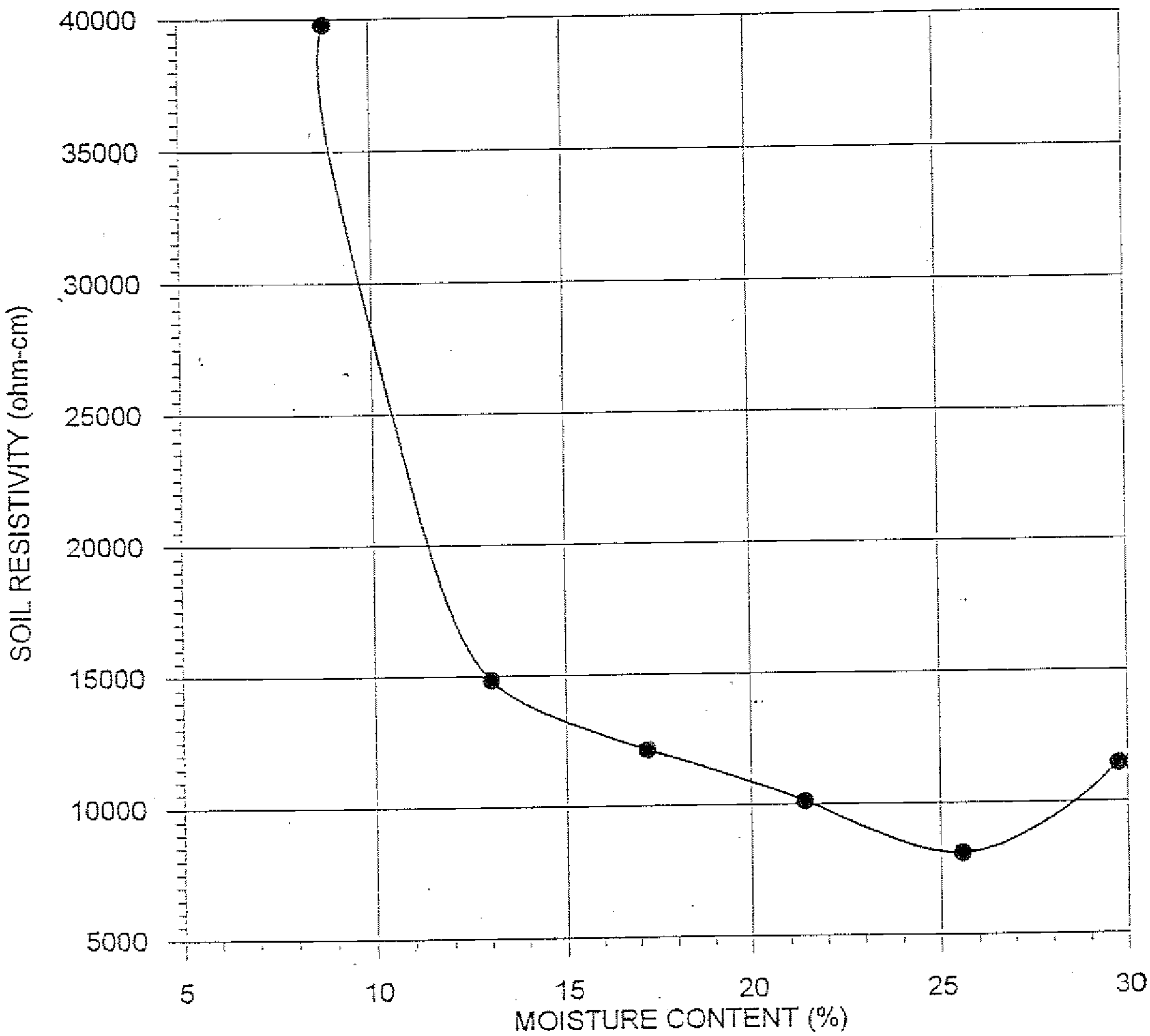
[X] **Procedure B**
Soil Passing 3/8 in. (9.5 mm) Sieve
Mold: 4 in. (101.6 mm) diameter
Layers: 5 (Five)
Blows per layer: 25 (twenty-five)
Use if + #4 > 20% and - 3/8 " < 20%

[ ] **Procedure C**
Soil Passing 3/4 in. (19.0 mm) Sieve
Mold: 6 in. (152.4 mm) diameter
Layers: 5 (Five)
Blows per layer: 56 (fifty-six)
Use if + 3/8 in >20% and + ¾ in <30%



Particle-Size Distribution:

Atterberg Limits:



HOLE NO.	SAMPLE NO.	DEPTH (ft)	MINIMUM RESISTIVITY (ohm-cm)	MOISTURE CONTENT (%)	SOIL TYPE
B-4	4-1	0.0-5.0	8,095	25.6	SM

Soil pH: 7.01 @ 21.0° C
Sulfate Content (ppm): < 0.015%
Chloride Content (ppm): N/A

TERATEST LABS, Inc.	Project No. 2990002-002 Loma Alta Park - Altadena
MINIMUM SOIL RESISTIVITY & SOIL pH (DOT CA Test 532 / 643) Sulfate Content (DOT CA Test 417, Part II) Chloride Content (DOT CA Test 422)	01-00

DATE: Monday, January 24, 2000

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*                                  *
*          E Q F A U L T           *
*                                  *
*            Ver. 2.20             *
*                                  *
*                                  *
************************************
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(Estimation of Peak Horizontal Acceleration
From Digitized California Faults)

SEARCH PERFORMED FOR: PB

JOB NUMBER: 990002-002

JOB NAME: Carde Ten Loma Alta

SITE COORDINATES:
LATITUDE: 34.2028 N
LONGITUDE: 118.1579 W

SEARCH RADIUS: 62 mi

ATTENUATION RELATION: 3) Boore et al. (1993a) Horiz. - Random - Site Class C

UNCERTAINTY (M=Mean, S=Mean+1-Sigma): M

SCOND: 0

COMPUTE PEAK HORIZONTAL ACCELERATION

FAULT-DATA FILE USED: CDMGSCE.DAT

SOURCE OF DEPTH VALUES (A=Attenuation File, F=Fault Data File): A

D-1

DETERMINISTIC SITE PARAMETERS

ABBREVIATED FAULT NAME	APPROX. DISTANCE mi (km)	MAX. CREDIBLE EVENT MAX. CRED. MAG.	MAX. CREDIBLE EVENT PEAK SITE ACC. g	MAX. CREDIBLE EVENT SITE INTENS MM	MAX. PROBABLE EVENT MAX. PROB. MAG.	MAX. PROBABLE EVENT PEAK SITE ACC. g	MAX. PROBABLE EVENT SITE INTENS MM
SAN ANDREAS - San Bernardi	37 (59)	7.30	0.108	VII	7.30	0.108	VII
SAN ANDREAS - Southern	37 (59)	7.40	0.114	VII	7.30	0.108	VII
SAN ANDREAS - Mojave	23 (37)	7.10	0.140	VIII	7.10	0.140	VIII
SAN ANDREAS - Carrizo	40 (64)	7.20	0.097	VII	7.20	0.097	VII
SAN ANDREAS - 1857 Rupture	23 (37)	7.80	0.202	VIII	7.50	0.173	VIII
SAN JACINTO-SAN JACINTO VA	54 (87)	6.90	0.065	VI	6.80	0.061	VI
SAN JACINTO-SAN BERNARDINO	37 (60)	6.70	0.078	VII	6.70	0.078	VII
ELSINORE-TEMECULA	60 (97)	6.80	0.056	VI	6.30	0.043	VI
ELSINORE-GLEN IVY	38 (62)	6.80	0.080	VII	6.30	0.062	VI
WHITTIER	17 (27)	6.80	0.149	VIII	5.90	0.093	VII
CHINO-CENTRAL AVE. (Elsino	26 (42)	6.70	0.123	VII	5.50	0.066	VI
GARLOCK (West)	57 (92)	7.10	0.069	VI	6.50	0.050	VI
NEWPORT-INGLEWOOD (Offshor	44 (71)	6.90	0.076	VII	5.80	0.042	VI
CLAMSHELL-SAWPIT	9 (15)	6.50	0.240	IX	5.00	0.109	VII
CUCAMONGA	25 (40)	7.00	0.150	VIII	6.10	0.093	VII
HOLLYWOOD	7 (11)	6.40	0.271	IX	5.30	0.152	VIII
HOLSER	27 (43)	6.50	0.110	VII	4.90	0.047	VI
MALIBU COAST	25 (40)	6.70	0.130	VIII	4.90	0.050	VI

M.RIDGE-ARROYO PARIDA-SANT	60 (97)	6.70	0.065	VI	5.40	0.033	V
NEWPORT-INGLEWOOD (L.A.Bas	17 (27)	6.90	0.158	VIII	5.60	0.079	VII
OAK RIDGE (Onshore)	35 (56)	6.90	0.110	VII	6.20	0.076	VII
PALOS VERDES	27 (44)	7.10	0.122	VII	6.20	0.076	VII
RAYMOND	5 (8)	6.50	0.342	IX	5.00	0.155	VIII
SAN CAYETANO	38 (61)	6.80	0.098	VII	6.40	0.079	VII
SAN GABRIEL	11 (17)	7.00	0.234	IX	5.60	0.112	VII

DETERMINISTIC SITE PARAMETERS

ABBREVIATED FAULT NAME	APPROX. DISTANCE mi (km)	MAX. CREDIBLE EVENT			MAX. PROBABLE EVENT		
		MAX. CRED. MAG.	PEAK SITE ACC. g	SITE INTENS MM	MAX. PROB. MAG.	PEAK SITE ACC. g	SITE INTENS MM
SAN JOSE	20 (31)	6.50	0.139	VIII	5.00	0.063	VI
SANTA MONICA	17 (27)	6.60	0.166	VIII	5.50	0.093	VII
SANTA YNEZ (East)	50 (81)	7.00	0.072	VII	5.90	0.041	V
SANTA SUSANA	21 (34)	6.60	0.139	VIII	6.30	0.119	VII
SIERRA MADRE (San Fernando	9 (15)	6.70	0.265	IX	5.60	0.148	VIII
SIERRA MADRE	0 (0)	7.00	0.706	XI	6.20	0.463	X
SIMI-SANTA ROSA	37 (60)	6.70	0.095	VII	5.50	0.050	VI
VENTURA - PITAS POINT	57 (92)	6.80	0.072	VI	5.50	0.036	V
VERDUGO	4 (6)	6.70	0.433	X	5.20	0.196	VIII
COMPTON THRUST	26 (42)	6.80	0.196	VIII	5.80	0.116	VII
ELYSIAN PARK THRUST	13 (22)	6.70	0.307	IX	5.80	0.191	VIII
NORTHRIDGE (E. Oak Ridge)	15 (24)	6.90	0.312	IX	5.80	0.174	VIII
ANACAPA-DUME	34 (55)	7.30	0.139	VIII	6.30	0.082	VII

CLEGHORN	40 (65)	6.50	0.066	VI	6.00	0.051	VI
NORTH FRONTAL FAULT ZONE (	51 (81)	7.00	0.087	VII	5.60	0.042	VI

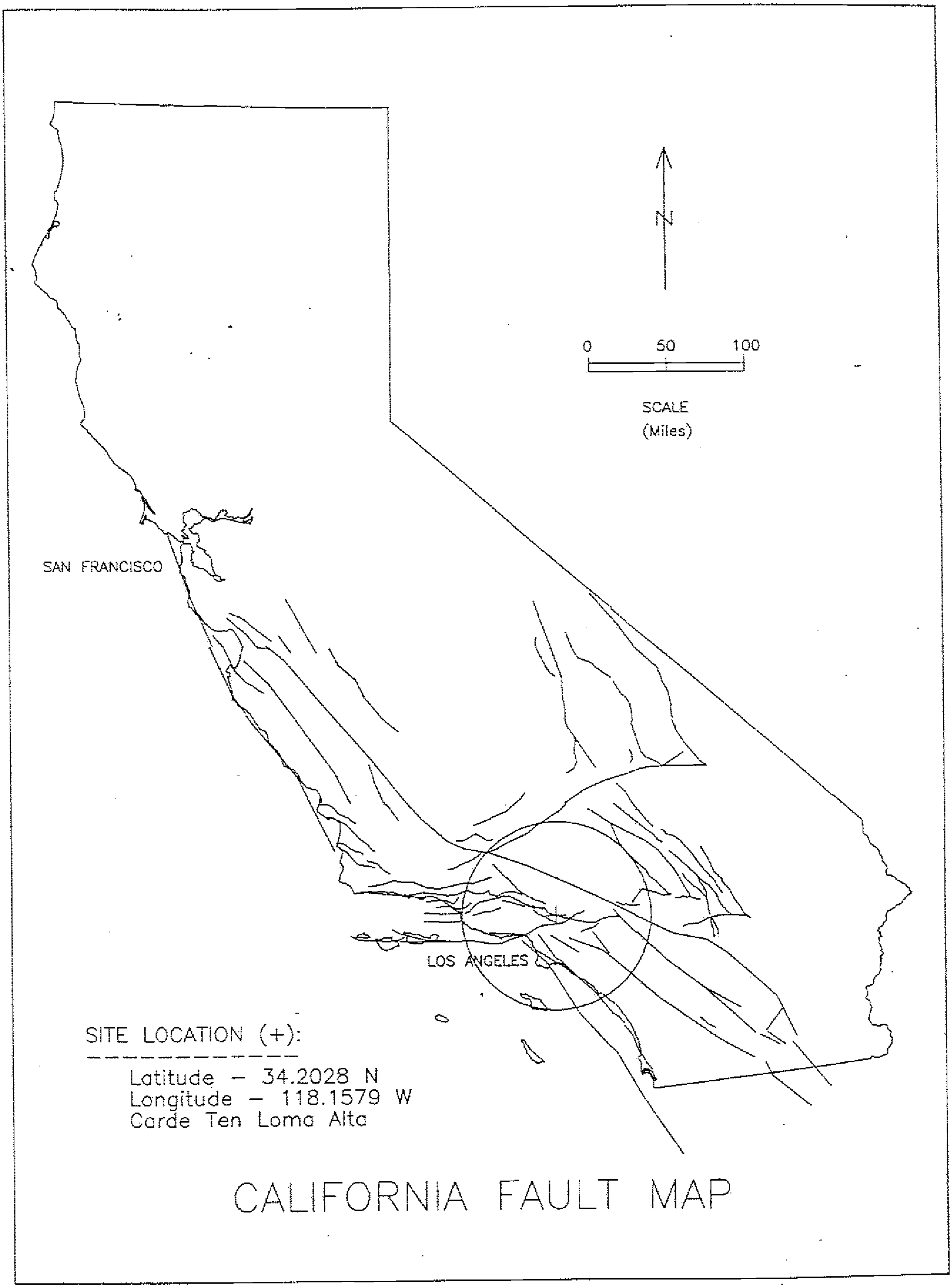
****

-END OF SEARCH- 40 FAULTS FOUND WITHIN THE SPECIFIED SEARCH RADIUS.

THE SIERRA MADRE FAULT IS CLOSEST TO THE SITE.
IT IS ABOUT 0.1 MILES AWAY.

LARGEST MAXIMUM-CREDIBLE SITE ACCELERATION: 0.706 g

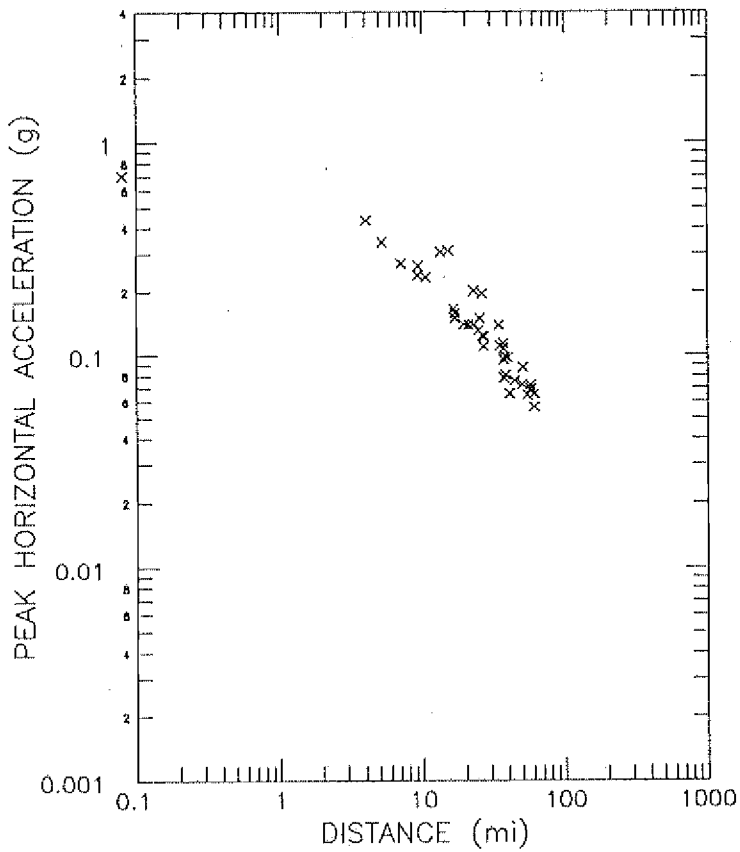
LARGEST MAXIMUM-PROBABLE SITE ACCELERATION: 0.463 g



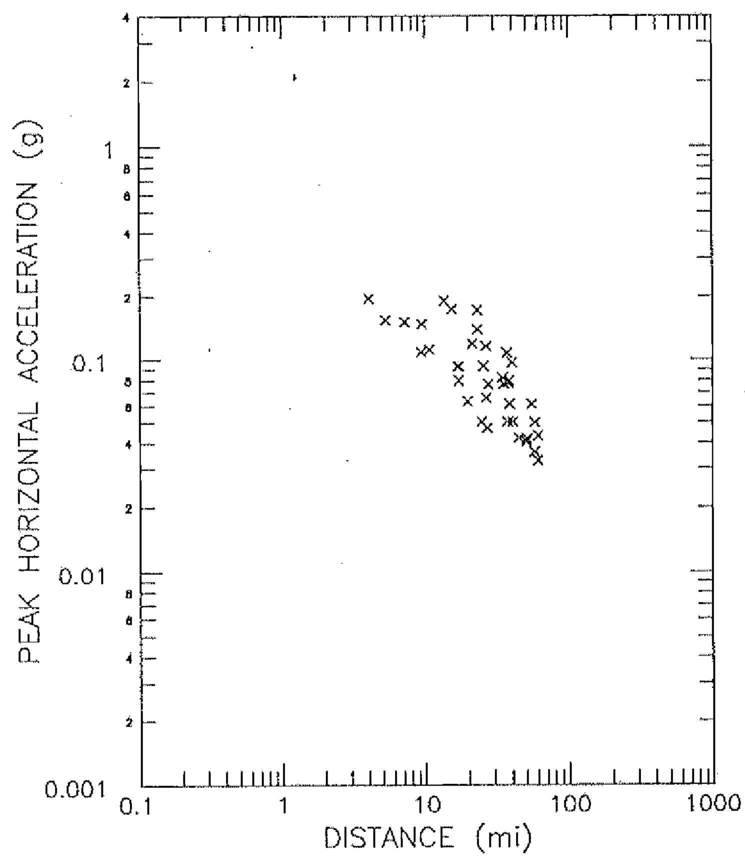
CALIFORNIA FAULT MAP

COMPARISON OF MAXIMUM EARTHQUAKES

MAXIMUM CREDIBLE EARTHQUAKES



MAXIMUM PROBABLE EARTHQUAKES



JOB NO.: 990002-002

LATITUDE: 34.2028 N — LONGITUDE: 118.1579 W

DATE: Monday, January 24, 2000

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*          E Q S E A R C H             *
*                                      *
*            Ver. 2.20                 *
*                                      *
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(Estimation of Peak Horizontal Acceleration
From California Earthquake Catalogs)

SEARCH PERFORMED FOR: PB

JOB NUMBER: 990002-002

JOB NAME: Carde Ten Loma Alta

SITE COORDINATES:
LATITUDE: 34.2028 N
LONGITUDE: 118.1579 W

TYPE OF SEARCH: RADIUS
SEARCH RADIUS: 62 mi

SEARCH MAGNITUDES: 5.0 TO 9.0

SEARCH DATES: 1800 TO 1998

ATTENUATION RELATION: 3) Boore et al. (1993a) Horiz. - Random - Site Class C

UNCERTAINTY (M=Mean, S=Mean+1-Sigma): M

SCOND: 0

FAULT TYPE ASSUMED (DS=Reverse, SS=Strike-Slip): DS

COMPUTE PEAK HORIZONTAL ACCELERATION

EARTHQUAKE-DATA FILE USED: ALLQUAKE.DAT

TIME PERIOD OF EXPOSURE FOR STATISTICAL COMPARISON: 50 years

SOURCE OF DEPTH VALUES (A=Attenuation File, E=Earthquake Catalog): A

D-5

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (GMT) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi [km]
DMG	34.370	117.650	12/ 8/1812	15 0 0.0	5.6	7.00	0.127	VIII	31 [50]
T-A	34.000	118.250	9/23/1827	0 0 0.0	5.6	5.00	0.077	VII	15 [24]
DMG	34.000	119.000	9/24/1827	4 0 0.0	5.6	7.00	0.088	VII	50 [81]
T-A	34.830	118.750	11/27/1852	0 0 0.0	5.6	7.00	0.082	VII	55 [88]
MGI	34.100	118.100	7/11/1855	415 0.0	5.6	6.30	0.241	IX	8 [13]
T-A	34.000	118.250	1/10/1856	0 0 0.0	5.6	5.00	0.077	VII	15 [24]
MGI	34.000	117.500	12/16/1858	10 0 0.0	5.6	7.00	0.105	VII	40 [65]
T-A	34.000	118.250	3/26/1860	0 0 0.0	5.6	5.00	0.077	VII	15 [24]
DMG	33.900	117.200	12/19/1880	0 0 0.0	5.6	6.00	0.046	VI	59 [94]
DMG	34.200	117.900	8/28/1889	215 0.0	5.6	5.50	0.102	VII	15 [24]
DMG	34.300	118.600	4/ 4/1893	1940 0.0	5.6	6.00	0.086	VII	26 [42]
DMG	34.300	117.600	7/30/1894	512 0.0	5.6	6.00	0.073	VII	33 [52]
DMG	34.200	117.400	7/22/1899	046 0.0	5.6	5.50	0.045	VI	43 [70]
DMG	34.300	117.500	7/22/1899	2032 0.0	5.6	6.50	0.084	VII	38 [61]
MGI	34.000	118.000	12/25/1903	1745 0.0	5.6	5.00	0.071	VI	17 [27]
MGI	34.100	117.300	7/15/1905	2041 0.0	5.6	5.30	0.036	V	50 [80]
MGI	34.000	118.300	9/ 3/1905	540 0.0	5.6	5.30	0.085	VII	16 [26]
DMG	34.200	117.100	9/20/1907	154 0.0	5.6	6.00	0.045	VI	60 [97]
DMG	33.700	117.400	4/11/1910	757 0.0	5.6	5.00	0.028	V	56 [89]
DMG	33.700	117.400	5/13/1910	620 0.0	5.6	5.00	0.028	V	56 [89]
DMG	33.700	117.400	5/15/1910	1547 0.0	5.6	6.00	0.048	VI	56 [89]
MGI	34.000	119.000	12/14/1912	0 0 0.0	5.6	5.70	0.044	VI	50 [81]
DMG	34.700	119.000	10/23/1916	254 0.0	5.6	5.50	0.035	V	59 [95]
MGI	33.800	117.600	4/22/1918	2115 0.0	5.6	5.00	0.035	V	42 [68]
MGI	34.000	118.500	11/19/1918	2018 0.0	5.6	5.00	0.054	VI	24 [39]
MGI	34.080	118.260	7/16/1920	18 8 0.0	5.6	5.00	0.101	VII	10 [17]
DMG	34.000	117.250	7/23/1923	73026.0	5.6	6.25	0.056	VI	54 [87]
DMG	34.000	118.500	8/ 4/1927	1224 0.0	5.6	5.00	0.054	VI	24 [39]
DMG	33.950	118.632	8/31/1930	04036.0	5.6	5.20	0.048	VI	32 [52]
DMG	33.617	117.967	3/11/1933	154 7.8	5.6	6.30	0.070	VI	42 [67]
DMG	33.750	118.083	3/11/1933	2 9 0.0	5.6	5.00	0.044	VI	32 [51]
DMG	33.750	118.083	3/11/1933	230 0.0	5.6	5.10	0.046	VI	32 [51]
DMG	33.750	118.083	3/11/1933	323 0.0	5.6	5.00	0.044	VI	32 [51]
DMG	33.700	118.067	3/11/1933	51022.0	5.6	5.10	0.043	VI	35 [56]
DMG	33.575	117.983	3/11/1933	518 4.0	5.6	5.20	0.037	V	44 [72]
DMG	33.683	118.050	3/11/1933	658 3.0	5.6	5.50	0.051	VI	36 [59]
DMG	33.700	118.067	3/11/1933	85457.0	5.6	5.10	0.043	VI	35 [56]
DMG	33.750	118.083	3/11/1933	910 0.0	5.6	5.10	0.046	VI	32 [51]
DMG	33.850	118.267	3/11/1933	1425 0.0	5.6	5.00	0.052	VI	25 [40]
DMG	33.750	118.083	3/13/1933	131828.0	5.6	5.30	0.051	VI	32 [51]
DMG	33.617	118.017	3/14/1933	19 150.0	5.6	5.10	0.038	V	41 [66]

DMG	33.783	118.133	10/ 2/1933	91017.6	5.6	5.40	0.058	VI	29	[47]
DMG	33.699	117.511	5/31/1938	83455.4	5.6	5.50	0.040	V	51	[82]
DMG	33.783	118.250	11/14/1941	84136.3	5.6	5.40	0.057	VI	29	[47]
DMG	34.519	118.198	8/23/1952	10 9 7.1	5.6	5.00	0.058	VI	22	[35]
DMG	34.270	117.540	9/12/1970	143053.0	5.6	5.40	0.049	VI	36	[57]
DMG	34.411	118.401	2/ 9/1971	14 041.8	5.6	6.40	0.130	VIII	20	[32]
DMG	34.411	118.401	2/ 9/1971	14 1 8.0	5.6	5.80	0.095	VII	20	[32]
DMG	34.411	118.401	2/ 9/1971	14 244.0	5.6	5.80	0.095	VII	20	[32]
DMG	34.411	118.401	2/ 9/1971	141028.0	5.6	5.30	0.073	VII	20	[32]
DMG	34.308	118.454	2/ 9/1971	144346.7	5.6	5.20	0.073	VII	18	[30]
DMG	34.065	119.035	2/21/1973	144557.3	5.6	5.90	0.049	VI	51	[82]
PAS	33.944	118.681	1/ 1/1979	231438.9	5.6	5.00	0.041	V	35	[56]
PAS	34.061	118.079	10/ 1/1987	144220.0	5.6	5.90	0.157	VIII	11	[17]
PAS	34.073	118.098	10/ 4/1987	105938.2	5.6	5.30	0.124	VII	10	[15]
PAS	34.943	118.743	6/10/1988	23 643.0	5.6	5.40	0.033	V	61	[98]
PAS	33.919	118.627	1/19/1989	65328.8	5.6	5.00	0.042	VI	33	[53]
GSP	34.140	117.700	2/28/1990	234336.6	5.6	5.20	0.056	VI	27	[43]

FILE CODE	LAT. NORTH	LONG. WEST	DATE	TIME (GMT) H M Sec	DEPTH (km)	QUAKE MAG.	SITE ACC. g	SITE MM INT.	APPROX. DISTANCE mi	[km]
GSP	34.262	118.002	6/28/1991	144354.5	5.6	5.40	0.129	VIII	10	[16]
GSP	34.213	118.537	1/17/1994	123055.4	5.6	6.70	0.143	VIII	22	[35]
GSB	34.301	118.565	1/17/1994	204602.4	5.6	5.20	0.060	VI	24	[39]
GSP	34.326	118.698	1/17/1994	233330.7	5.6	5.60	0.060	VI	32	[51]
GSP	34.377	118.698	1/18/1994	004308.9	5.6	5.20	0.047	VI	33	[53]
GSB	34.379	118.711	1/19/1994	210928.6	5.6	5.50	0.054	VI	34	[54]
GSP	34.378	118.618	1/19/1994	211144.9	5.6	5.10	0.049	VI	29	[47]
GSP	34.305	118.579	1/29/1994	112036.0	5.6	5.10	0.055	VI	25	[40]
GSP	34.231	118.475	3/20/1994	212012.3	5.6	5.30	0.078	VII	18	[29]
GSP	34.394	118.669	6/26/1995	084028.9	5.6	5.00	0.043	VI	32	[52]
GSP	34.369	118.672	4/26/1997	103730.7	5.6	5.10	0.046	VI	31	[51]

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-END OF SEARCH- 69 RECORDS FOUND

COMPUTER TIME REQUIRED FOR EARTHQUAKE SEARCH: 0.5 minutes

MAXIMUM SITE ACCELERATION DURING TIME PERIOD 1800 TO 1998: 0.241g

MAXIMUM SITE INTENSITY (MM) DURING TIME PERIOD 1800 TO 1998: IX

MAXIMUM MAGNITUDE ENCOUNTERED IN SEARCH: 7.00

NEAREST HISTORICAL EARTHQUAKE WAS ABOUT 8 MILES AWAY FROM SITE.

NUMBER OF YEARS REPRESENTED BY SEARCH: 199 years

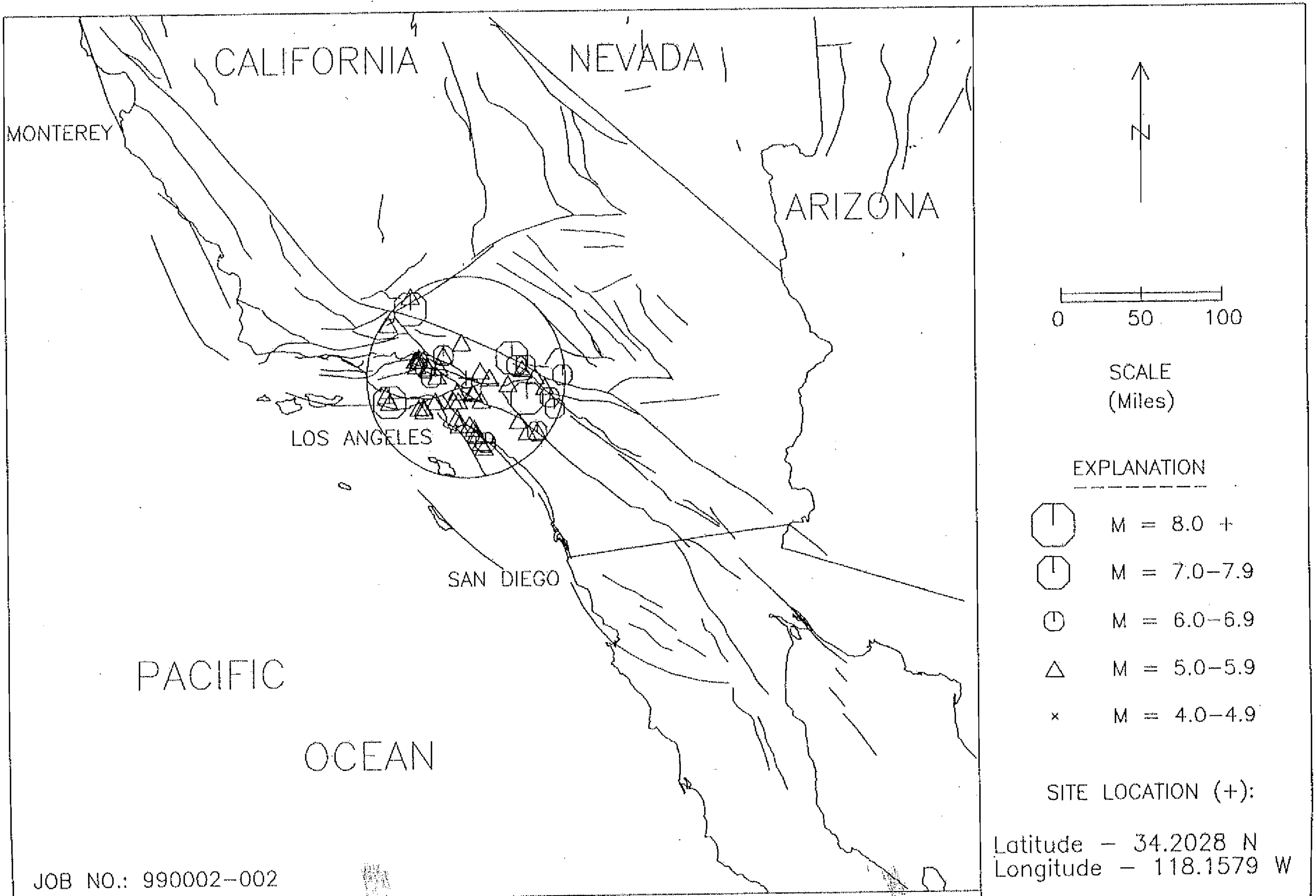
D-6

RESULTS OF PROBABILITY ANALYSES

TIME PERIOD OF SEARCH: 1800 TO 1998
LENGTH OF SEARCH TIME: 199 years
ATTENUATION RELATION: 3) Boore et al. (1993a) Horiz. - Random - Site Class C
*** TIME PERIOD OF EXPOSURE FOR PROBABILITY: 50 years

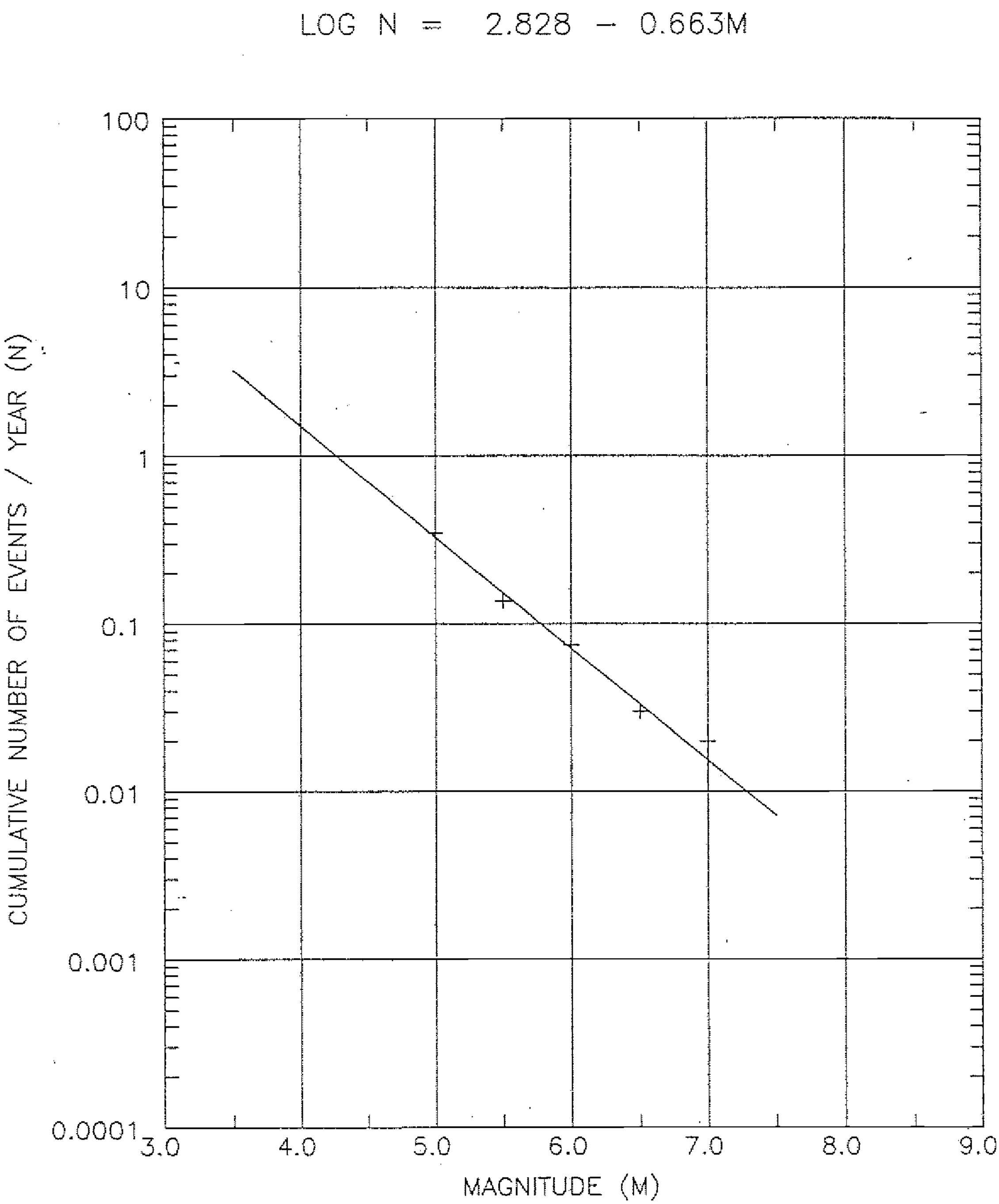
PROBABILITY OF EXCEEDANCE FOR ACCELERATION

ACC. g	NO.OF TIMES EXCED	AVE. OCCUR. #/yr	RECURR. INTERV. years	COMPUTED PROBABILITY OF EXCEEDANCE in 0.5 yr	in 1 yr	in 10 yr	in 50 yr	in 75 yr	in 100 yr	in *** yr
0.01	69	0.347	2.884	0.1592	0.2930	0.9688	1.0000	1.0000	1.0000	1.0000
0.02	69	0.347	2.884	0.1592	0.2930	0.9688	1.0000	1.0000	1.0000	1.0000
0.03	67	0.337	2.970	0.1549	0.2859	0.9655	1.0000	1.0000	1.0000	1.0000
0.04	60	0.302	3.317	0.1399	0.2603	0.9510	1.0000	1.0000	1.0000	1.0000
0.05	40	0.201	4.975	0.0956	0.1821	0.8660	1.0000	1.0000	1.0000	1.0000
0.06	26	0.131	7.654	0.0632	0.1225	0.7292	0.9985	0.9999	1.0000	0.9985
0.07	25	0.126	7.960	0.0609	0.1181	0.7153	0.9981	0.9999	1.0000	0.9981
0.08	17	0.085	11.706	0.0418	0.0819	0.5744	0.9860	0.9984	0.9998	0.9860
0.09	12	0.060	16.583	0.0297	0.0585	0.4528	0.9510	0.9891	0.9976	0.9510
0.10	10	0.050	19.900	0.0248	0.0490	0.3950	0.9189	0.9769	0.9934	0.9189
0.11	7	0.035	28.429	0.0174	0.0346	0.2966	0.8277	0.9285	0.9703	0.8277
0.12	7	0.035	28.429	0.0174	0.0346	0.2966	0.8277	0.9285	0.9703	0.8277
0.13	4	0.020	49.750	0.0100	0.0199	0.1821	0.6340	0.7785	0.8660	0.6340
0.14	3	0.015	66.333	0.0075	0.0150	0.1399	0.5294	0.6772	0.7785	0.5294
0.15	2	0.010	99.500	0.0050	0.0100	0.0956	0.3950	0.5294	0.6340	0.3950
0.16	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.17	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.18	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.19	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.20	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.21	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.22	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.23	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222
0.24	1	0.005	199.000	0.0025	0.0050	0.0490	0.2222	0.3140	0.3950	0.2222



JOB NO.: 990002-002

HISTORICAL EARTHQUAKES 1800 TO 1998



SEISMIC RECURRENCE CURVE

HISTORICAL EARTHQUAKES FROM 1800 TO 1998

Carde Ten Loma Alta

APPENDIX E

LEIGHTON AND ASSOCIATES, INC.

GENERAL EARTHWORK AND GRADING SPECIFICATIONS FOR ROUGH GRADING

Table of Contents

1.0 General

1.1 Intent: These General Earthwork and Grading Specifications are for the grading and earthwork shown on the approved grading plan(s) and/or indicated in the geotechnical report(s). These Specifications are a part of the recommendations contained in the geotechnical report(s). In case of conflict, the specific recommendations in the geotechnical report shall supersede these more general Specifications. Observations of the earthwork by the project Geotechnical Consultant during the course of grading may result in new or revised recommendations that could supersede these specifications or the recommendations in the geotechnical report(s).

1.2 The Geotechnical Consultant of Record: Prior to commencement of work, the owner shall employ the Geotechnical Consultant of Record (Geotechnical Consultant). The Geotechnical Consultants shall be responsible for reviewing the approved geotechnical report(s) and accepting the adequacy of the preliminary geotechnical findings, conclusions, and recommendations prior to the commencement of the grading.

Prior to commencement of grading, the Geotechnical Consultant shall review the "work plan" prepared by the Earthwork Contractor (Contractor) and schedule sufficient personnel to perform the appropriate level of observation, mapping, and compaction testing.

During the grading and earthwork operations, the Geotechnical Consultant shall observe, map, and document the subsurface exposures to verify the geotechnical design assumptions. If the observed conditions are found to be significantly different than the interpreted assumptions during the design phase, the Geotechnical Consultant shall inform the owner, recommend appropriate changes in design to accommodate the observed conditions, and notify the review agency where required. Subsurface areas to be geotechnically observed, mapped, elevations recorded, and/or tested include natural ground after it has been cleared for receiving fill but before fill is placed, bottoms of all "remedial removal" areas, all key bottoms, and benches made on sloping ground to receive fill.

The Geotechnical Consultant shall observe the moisture-conditioning and processing of the subgrade and fill materials and perform relative compaction testing of fill to determine the attained level of compaction. The Geotechnical Consultant shall provide the test results to the owner and the Contractor on a routine and frequent basis.

1.3 The Earthwork Contractor: The Earthwork Contractor (Contractor) shall be qualified, experienced, and knowledgeable in earthwork logistics, preparation and processing of ground to receive fill, moisture-conditioning and processing of fill, and compacting fill. The Contractor shall review and accept the plans, geotechnical report(s), and these Specifications prior to commencement of grading. The

Contractor shall be solely responsible for performing the grading in accordance with the plans and specifications.

The Contractor shall prepare and submit to the owner and the Geotechnical Consultant a work plan that indicates the sequence of earthwork grading, the number of "spreads" of work and the estimated quantities of daily earthwork contemplated for the site prior to commencement of grading. The Contractor shall inform the owner and the Geotechnical Consultant of changes in work schedules and updates to the work plan at least 24 hours in advance of such changes so that appropriate observations and tests can be planned and accomplished. The Contractor shall not assume that the Geotechnical Consultant is aware of all grading operations.

The Contractor shall have the sole responsibility to provide adequate equipment and methods to accomplish the earthwork in accordance with the applicable grading codes and agency ordinances, these Specifications, and the recommendations in the approved geotechnical report(s) and grading plan(s). If, in the opinion of the Geotechnical Consultant, unsatisfactory conditions, such as unsuitable soil, improper moisture condition, inadequate compaction, insufficient buttress key size, adverse weather, etc., are resulting in a quality of work less than required in these specifications, the Geotechnical Consultant shall reject the work and may recommend to the owner that construction be stopped until the conditions are rectified.

2.0 Preparation of Areas to be Filled

2.1 Clearing and Grubbing: Vegetation, such as brush, grass, roots, and other deleterious material shall be sufficiently removed and properly disposed of in a method acceptable to the owner, governing agencies, and the Geotechnical Consultant.

The Geotechnical Consultant shall evaluate the extent of these removals depending on specific site conditions. Earth fill material shall not contain more than 1 percent of organic materials (by volume). No fill lift shall contain more than 5 percent of organic matter. Nesting of the organic materials shall not be allowed.

If potentially hazardous materials are encountered, the Contractor shall stop work in the affected area, and a hazardous material specialist shall be informed immediately for proper evaluation and handling of these materials prior to continuing to work in that area.

As presently defined by the State of California, most refined petroleum products (gasoline, diesel fuel, motor oil, grease, coolant, etc.) have chemical constituents that are considered to be hazardous waste. As such, the indiscriminate dumping or spillage of these fluids onto the ground may constitute a misdemeanor, punishable by fines and/or imprisonment, and shall not be allowed.

2.2 Processing: Existing ground that has been declared satisfactory for support of fill by the Geotechnical Consultant shall be scarified to a minimum depth of 6 inches. Existing ground that is not satisfactory shall be overexcavated as specified in the following section. Scarification shall continue until soils are broken down and free of large clay lumps or clods and the working surface is reasonably uniform, flat, and free of uneven features that would inhibit uniform compaction.

2.3 Overexcavation: In addition to removals and overexcavations recommended in the approved geotechnical report(s) and the grading plan, soft, loose, dry, saturated, spongy, organic-rich, highly fractured or otherwise unsuitable ground shall be overexcavated to competent ground as evaluated by the Geotechnical Consultant during grading.

2.4 Benching: Where fills are to be placed on ground with slopes steeper than 5:1 (horizontal to vertical units), the ground shall be stepped or benched. Please see the Standard Details for a graphic illustration. The lowest bench or key shall be a minimum of 15 feet wide and at least 2 feet deep, into competent material as evaluated by the Geotechnical Consultant. Other benches shall be excavated a minimum height of 4 feet into competent material or as otherwise recommended by the Geotechnical Consultant. Fill placed on ground sloping flatter than 5:1 shall also be benched or otherwise overexcavated to provide a flat subgrade for the fill.

2.5 Evaluation/Acceptance of Fill Areas: All areas to receive fill, including removal and processed areas, key bottoms, and benches, shall be observed, mapped, elevations recorded, and/or tested prior to being accepted by the Geotechnical Consultant as suitable to receive fill. The Contractor shall obtain a written acceptance from the Geotechnical Consultant prior to fill placement. A licensed surveyor shall provide the survey control for determining elevations of processed areas, keys, and benches.

3.0 Fill Material

3.1 General: Material to be used as fill shall be essentially free of organic matter and other deleterious substances evaluated and accepted by the Geotechnical Consultant prior to placement. Soils of poor quality, such as those with unacceptable gradation, high expansion potential, or low strength shall be placed in areas acceptable to the Geotechnical Consultant or mixed with other soils to achieve satisfactory fill material.

3.2 Oversize: Oversize material defined as rock, or other irreducible material with a maximum dimension greater than 8 inches, shall not be buried or placed in fill unless location, materials, and placement methods are specifically accepted by the Geotechnical Consultant. Placement operations shall be such that nesting of oversized material does not occur and such that oversize material is completely surrounded by compacted or densified fill. Oversize material shall not be placed within 10 vertical feet of finish grade or within 2 feet of future utilities or underground construction.

3.3 Import: If importing of fill material is required for grading, proposed import material shall meet the requirements of Section 3.1. The potential import source shall be given to the Geotechnical Consultant at least 48 hours (2 working days) before importing begins so that its suitability can be determined and appropriate tests performed.

4.0 Fill Placement and Compaction

4.1 Fill Layers: Approved fill material shall be placed in areas prepared to receive fill (per Section 3.0) in near-horizontal layers not exceeding 8 inches in loose thickness. The Geotechnical Consultant may accept thicker layers if testing indicates the grading procedures can adequately compact the thicker layers. Each layer shall be spread evenly and mixed thoroughly to attain relative uniformity of material and moisture throughout.

4.2 Fill Moisture Conditioning: Fill soils shall be watered, dried back, blended, and/or mixed, as necessary to attain a relatively uniform moisture content at or slightly over optimum. Maximum density and optimum soil moisture content tests shall be performed in accordance with the American Society of Testing and Materials (ASTM Test Method D1557-91).

4.3 Compaction of Fill: After each layer has been moisture-conditioned, mixed, and evenly spread, it shall be uniformly compacted to not less than 90 percent of maximum dry density (ASTM Test Method D1557-91). Compaction equipment shall be adequately sized and be either specifically designed for soil compaction or of proven reliability to efficiently achieve the specified level of compaction with uniformity.

4.4 Compaction of Fill Slopes: In addition to normal compaction procedures specified above, compaction of slopes shall be accomplished by backrolling of slopes with sheepsfoot rollers at increments of 3 to 4 feet in fill elevation, or by other methods producing satisfactory results acceptable to the Geotechnical Consultant. Upon completion of grading, relative compaction of the fill, out to the slope face, shall be at least 90 percent of maximum density per ASTM Test Method D1557-91.

4.5 Compaction Testing: Field tests for moisture content and relative compaction of the fill soils shall be performed by the Geotechnical Consultant. Location and frequency of tests shall be at the Consultant's discretion based on field conditions encountered. Compaction test locations will not necessarily be selected on a random basis. Test locations shall be selected to verify adequacy of compaction levels in areas that are judged to be prone to inadequate compaction (such as close to slope faces and at the fill/bedrock benches).

4.6 Frequency of Compaction Testing: Tests shall be taken at intervals not exceeding 2 feet in vertical rise and/or 1,000 cubic yards of compacted fill soils embankment. In addition, as a guideline, at least one test shall be taken on slope faces for each 5,000 square feet of slope face and/or each 10 feet of vertical height of slope. The Contractor shall assure that fill construction is such that the testing schedule can be accomplished by the Geotechnical Consultant. The Contractor shall stop or slow down the earthwork construction if these minimum standards are not met.

4.7 Compaction Test Locations: The Geotechnical Consultant shall document the approximate elevation and horizontal coordinates of each test location. The Contractor shall coordinate with the project surveyor to assure that sufficient grade stakes are established so that the Geotechnical Consultant can determine the test locations with sufficient accuracy. At a minimum, two grade stakes within a horizontal distance of 100 feet and vertically less than 5 feet apart from potential test locations shall be provided.

5.0 Subdrain Installation

Subdrain systems shall be installed in accordance with the approved geotechnical report(s), the grading plan, and the Standard Details. The Geotechnical Consultant may recommend additional subdrains and/or changes in subdrain extent, location, grade, or material depending on conditions encountered during grading. All subdrains shall be surveyed by a land surveyor/civil engineer for line and grade after installation and prior to burial. Sufficient time should be allowed by the Contractor for these surveys.

6.0 Excavation

Excavations, as well as over-excavation for remedial purposes, shall be evaluated by the Geotechnical Consultant during grading. Remedial removal depths shown on geotechnical plans are estimates only. The actual extent of removal shall be determined by the Geotechnical Consultant based on the field evaluation of exposed conditions during grading. Where fill-over-cut slopes are to be graded, the cut portion of the slope shall be made, evaluated, and accepted by the Geotechnical Consultant prior to placement of materials for construction of the fill portion of the slope, unless otherwise recommended by the Geotechnical Consultant.

7.0 Trench Backfills

7.1 Safety: The Contractor shall follow all OHSA and Cal/OSHA requirements for safety of trench excavations.

7.2 Bedding and Backfill: All bedding and backfill of utility trenches shall be done in accordance with the applicable provisions of Standard Specifications of Public Works Construction. Bedding material shall have a Sand Equivalent greater than 30 (SE>30). The bedding shall be placed to 1 foot over the top of the conduit and densified by jetting. Backfill shall be placed and densified to a minimum of 90 percent of maximum from 1 foot above the top of the conduit to the surface.

The Geotechnical Consultant shall test the trench backfill for relative compaction. At least one test should be made for every 300 feet of trench and 2 feet of fill.

7.3 Lift Thickness: Lift thickness of trench backfill shall not exceed those allowed in the Standard Specifications of Public Works Construction unless the Contractor can demonstrate to the Geotechnical Consultant that the fill lift can be compacted to the minimum relative compaction by his alternative equipment and method.

7.4 Observation and Testing: The jetting of the bedding around the conduits shall be observed by the Geotechnical Consultant.

Appendix F

Asbestos and Lead-Based Paint Survey and Asbestos Abatement and Lead-Related Construction Specifications

ASBESTOS AND LEAD-BASED PAINT SURVEY
ALTA LOMA COUNTY PARK
RECREATION BUILDING
3330 NORTH LINCOLN AVENUE
ALTA LOMA, CALIFORNIA

PREPARED FOR:
County of Los Angeles, Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

December 30, 2003
Project No. 203294048

December 30, 2003
Project No. 203294048

Mr. Mike Patel
County of Los Angeles, Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

Subject: Asbestos and Lead-Based Paint Survey
Loma Alta County Park Recreation Building
3330 North Lincoln Avenue
Alta Loma, California

Dear Mr. Patel:

In accordance with your authorization to proceed, Ninyo & Moore has performed an Asbestos and Lead-Based Paint Survey at the Loma Alta County Park Recreation Building in Alta Loma, California. The attached report presents our methodology, findings, conclusions, and recommendations regarding our survey.

We appreciate the opportunity to be of service to you on this important project. Should you have any questions regarding this report, please contact me at your convenience.

Sincerely,
NINYO & MOORE

Dana E. Williams
Certified Asbestos Consultant No. 93-1168

DEW/mll

Distribution: (6) Addressee

TABLE OF CONTENTS

1. INTRODUCTION

In accordance with your request and authorization to proceed, Ninyo & Moore has performed an asbestos survey and a lead-based paint (LBP) survey at the Loma Alta County Park Recreation Building located at 3330 North Lincoln Avenue in Alta Loma, California (Figure 1). This report has been prepared in accordance with generally accepted environmental science and engineering practices. This report is based upon conditions at the subject building at the time of the sampling activities and provides documentation of our findings and recommendations.

2. PURPOSE AND SCOPE OF SERVICES

The purpose of the survey was to evaluate the subject site for the presence of asbestos-containing materials (ACMs) and LBP. The objective of the survey was to gain information regarding site conditions to assist in the General Parks Improvement Project. Ninyo & Moore performed the following services:

- Performance of a visual reconnaissance of the readily accessible areas of the site to evaluate the possible presence of ACMs.
- Collection of 29 building material samples and submittal of these samples to an independent laboratory for analysis of asbestos content.
- Collection of 170 x-ray fluorescence (XRF) readings of potential LBP.
- Preparation of a site plan showing bulk sample locations.
- Preparation of this report summarizing our field activities, laboratory test results, conclusions, and recommendations.

3. SITE DESCRIPTION

The subject site consists of the Recreation Building at Loma Alta County Park totaling approximately 3,600 square feet. The building was a single-story structure on a concrete foundation. Floors were covered with floor tile, wood, or were bare concrete. Interior walls and some ceilings were covered with plaster. Other ceiling areas were covered with wooden tile or a woven ceiling material. Thermal system insulation on domestic hot water piping was noted to be insulated with fiberglass while the joints and elbows were insulated with mudded joint packing. The wood-framed roof areas were covered with composite shingles. The roof penetrations were coated with plastic roof cement.

4. PHYSICAL LIMITATIONS

Since non-destructive sampling techniques were used, there is a possibility that additional ACMs and LBPs may be encountered in inaccessible areas (e.g., interstitial wall spaces) during building renovation activities.

5. SAMPLE COLLECTION

On December 15, 2003, Ninyo & Moore personnel conducted asbestos and LBP surveys of the site. The surveys followed United States Environmental Protection Agency (EPA) guidelines, within the limitations of the scope of this survey. The asbestos survey was performed by a California-Certified Asbestos Consultant and consisted of collecting building materials from the subject structures. The LBP survey was conducted by a California Certified Lead Paint Inspector/Assessor.

5.1. Asbestos Survey

A preliminary visual assessment and bulk-sampling survey of suspect ACMs was performed. Representative samples of the suspect ACMs were collected after identification of homogeneous sampling areas (areas in which the materials are uniform in color, texture, construction or application date, and general appearance). Each homogeneous area was observed for material type, location, condition, and friability. Representative samples were collected from each area except areas that were inaccessible, or areas of assumed ACM, within the limitations of the survey. Samples were collected using EPA-recommended sampling procedures. Building materials which were sampled and analyzed for the presence of asbestos are presented in Table 1. The locations of bulk asbestos samples are shown on Figure 2.

5.2. Paint Survey

To test surfaces for future contractor worker safety and waste characterization, a portable NITON 309 XRF spectrum analyzer was utilized. The testing was conducted in general accordance with accepted environmental science and engineering practices for demolition projects. A total of 170 XRF readings were analyzed. Surfaces that were tested for the presence of lead are presented in the attached Table 2.

6. LABORATORY ANALYSES AND RESULTS

6.1. Asbestos Analysis

Twenty-nine samples of suspect ACMs were collected and transferred to LA Testing. LA Testing is an accredited laboratory in the National Voluntary Laboratory Accreditation Program (NVLAP) for bulk asbestos fiber analysis. The samples were analyzed using Polarized Light Microscopy with dispersion staining (PLM/Ds), for the presence and quantification of asbestos fibers, in general accordance with EPA Method 600/M4-82-020. The lower limit of reliable detection for asbestos using the PLM method is approximately 1 percent by volume. California regulations now define ACMs as those materials having an asbestos content of greater than one tenth of 1 percent (0.1%). Materials in which no asbestos was detected are defined in the laboratory report as "None detected." Materials containing asbestos, but in amounts less than 1 percent but greater than 0.1 percent, are defined as containing "trace" amounts. Building materials with an asbestos concentration greater than 0.1 percent are listed in Section 7 of this report. Suspect materials sampled and the analytical results are summarized in Table 1. A copy of the laboratory analytical report and chain-of-custody record is presented in Appendix A.

6.2. Paint Analysis

Currently, the State of California and the USEPA stipulate what concentrations of lead in nonvolatile components of surface coatings or materials determine whether a material is considered to be a lead-based paint. The California Department of Health Services (DHS) stipulates that materials containing an amount equal to or in excess of one milligram per square centimeter (1.0 mg/cm^2), or more than one-half of one percent (0.5%) by weight, constitute a lead-based paint. The U.S. Department of Housing and Urban Development (HUD) guideline for designating a painted surface as lead-containing is consistent with the DHS. Paint that is chipping or peeling, or that may be removed from surfaces, and has a lead content equal to or greater than 1,000 milligrams per kilogram (mg/kg), requires handling as a California Title 22 hazardous waste. In addition, Los Angeles County Title 11, Chapter 11.28, "Lead Hazard County" stipulates that materials containing an amount equal or in excess to in excess of 0.7 mg/cm^2, or more than 0.35% by weight, constitute a lead-based paint. In addition, under California Code of Regulations Title 8, Section 1532.1, specific worker protection measures are required in construction projects where any lead is present. LBP testing results are summarized in the attached Table 2, XRF testing methodology is included in Appendix B, and a copy of DHS form 8552 "Lead Hazard Evaluation Report" is included in Appendix C.

7. FINDINGS AND OPINIONS

7.1. Asbestos

Based on the analytical results of bulk samples collected during this survey, ACMs located at the site are as follows:

- Approximately 1,000 square feet (SF) of mastic associated with green floor tile, containing 5 percent chrysotile asbestos, located in the recreation room hall, and classrooms, observed to be in good condition.
- Approximately 6 mudded joints on 4 inch diameter piping, containing 10 percent chrysotile asbestos, located in the boiler room, noted to be in good condition.
- Approximately 120 SF of tan floor tile, containing 5 percent chrysotile asbestos, located in the office area, noted to be in good condition.
- Approximately 50 SF of plastic roof cement, assumed to be asbestos containing, located on roof penetrations, noted to be in good condition.
- Approximately 10 SF of vibration joint compound, assumed to be asbestos containing, located in the heater room, noted to be in good condition.

- Approximately 2 linear feet of transite piping, assumed to be asbestos containing, located on the floor of the heater room, noted to be in good condition.

Please note that quantities of ACMs are approximate. These numbers should be confirmed prior to removal or repair activities.

The presence of ACMs in a building does not necessarily mean that the health of the occupants is endangered. If these materials are in good condition and have not been disturbed or deteriorated, exposures are expected to be negligible. However, when ACM deteriorates, or is disturbed or is in damaged condition, such as during demolition operations, asbestos fibers may be released creating a potential health hazard for building occupants, maintenance personnel, and contractors.

7.2. Paint

Based on the analytical results of 170 XRF samples collected during our survey, the following painted surfaces contained concentrations of lead greater than 0.7 mg/cm^2:

- Recreation Room – wood window casing and trough;
- Hall – ceramic tile wall;
- Kitchen – baseboard tile, and window trough;
- Porch – ceramic tile baseboard;
- Janitors closet – wall;
- Storage room – wood shelves;
- Women's restroom – wall and baseboard; and
- Men's restroom – ceramic tile wall.

8. RECOMMENDATIONS

Since ACMs and LBPs have been identified at the subject site, the following recommendations and precautions are provided:

- The identified ACMs should not be disturbed. Prior to renovation or demolition work which would disturb identified ACMs, a licensed asbestos abatement removal contractor should remove the ACMs.
- The identified LBPs should not be disturbed. Any LBPs in a non-intact condition should be abated and the component properly encapsulated. Prior to demolition work which would disturb identified LBPs, a licensed lead abatement removal contractor should remove the LBPs.
- Applicable laws and regulations should be followed, including those provisions requiring notification to building occupants, renovation contractors, and workers of the presence of asbestos and LBP.

9. LIMITATIONS

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited sampling and chemical analysis. Further assessment of potential adverse environmental impacts may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated. However, if additional suspect ACMs are encountered during demolition activities, these materials should be sampled by qualified personnel, and analyzed for content prior to further disturbance. In addition, please note that quantities of ACMs are approximate. These numbers should be confirmed prior to removal or repair activities.

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities. Please also note that this study did not include an evaluation of geotechnical conditions or potential geologic hazards.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Our conclusions, recommendations and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site can change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

Table 1 – Asbestos Survey Results

Sample ID No.	Sample Location	Sample Description	Result	Approximate Quantity (SF/LF/EA)	Condition
01	**Classroom**	**Green floor tile and mastic**	**Tile-none detected Mastic-5% chrysotile**	**1,000 SF**	**Good**
02	**Classroom**	**Green floor tile and mastic**	**Tile-none detected Mastic-none detected**	**1,000 SF**	**Good**
03	**Classroom**	**Green floor tile and mastic**	**Tile-none detected Mastic-none detected**	**1,000 SF**	**Good**
04	Kitchen	Plaster	None detected	Not applicable	Good
05	Hall	Plaster	None detected	Not applicable	Good
06	Storage room	Plaster	None detected	Not applicable	Good
07	Storage room	Button board	None detected	Not applicable	Good
08	Storage room	Button board	None detected	Not applicable	Good
09	Storage room	Button board	None detected	Not applicable	Good
10	Recreation room	Ceiling material	None detected	Not applicable	Good
11	Recreation room	Ceiling material	None detected	Not applicable	Good
12	Recreation room	Ceiling material	None detected	Not applicable	Good
13	Classroom	Plaster	None detected	Not applicable	Good
14	Classroom	Plaster	None detected	Not applicable	Good
15	**Heater room**	**Mudded joint packing**	**10% chrysotile**	**6 EA**	**Good**
16	**Heater room**	**Mudded joint packing**	**10% chrysotile**	**6 EA**	**Good**
17	**Heater room**	**Mudded joint packing**	**10% chrysotile**	**6 EA**	**Good**
18	West entry	Stucco	None detected	Not applicable	Good
19	West entry	Stucco	None detected	Not applicable	Good
20	West entry	Stucco	None detected	Not applicable	Good
21	Roof	Roofing material	None detected	Not applicable	Good
22	Roof	Roofing material	None detected	Not applicable	Good
23	Roof	Roofing material	None detected	Not applicable	Good
24	Office area	Plaster	None detected	Not applicable	Good
25	Janitors closet	Plaster	None detected	Not applicable	Good
26	Men's restroom	Plaster	None detected	Not applicable	Good
27	**Office area**	**Tan floor tile and mastic**	**Tile-5% chrysotile Mastic-none detected**	**120 SF**	**Good**
28	**Office area**	**Tan floor tile and mastic**	**Tile-5% chrysotile Mastic-none detected**	**120 SF**	**Good**
29	**Office area**	**Tan floor tile and mastic**	**Tile-5% chrysotile Mastic-none detected**	**120 SF**	**Good**

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
1	--	--	Shutter Calibration				--	0.0	...	--	--	--
2	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.15	0.09
3	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.08	0.05
4	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.14	0.09
5	1	A	Exterior	Concrete	Wall	Intact	Off-white	2.8	NEG	--	0.17	0.07
6	1	A	Exterior	Metal	Downspout	Intact	Off-white	2.8	NEG	--	0.05	0.12
7	1	A	Exterior	Wood	Door	Intact	Turquoise	2.7	NEG	--	0.19	0.13
8	1	A	Exterior	Wood	Door Casing	Intact	Off-white	1.0	NEG	--	0.00	0.02
9	1	A	Exterior	Wood	Window grate cover	Intact	Off-white	1.6	NEG	--	0.00	0.06
10	1	A	Exterior	Wood	Lower trim	Intact	Tan	1.8	NEG	--	0.21	0.09
11	1	A	Exterior	Wood	Upper trim	Fair	Tan	1.4	NEG	--	0.20	0.08
12	1	A	Exterior	Wood	Lower support beams	Intact	Tan	2.1	NEG	--	0.18	0.15
13	1	A	Exterior	Wood	Upper support beams	Intact	Tan	2.3	NEG	--	0.25	0.14
14	1	A	Exterior	Wood	Window casing	Fair	Tan	1.7	NEG	--	0.17	0.09
15	1	B	Exterior	Metal	Gate	Intact	Turquoise	2.1	NEG	--	0.24	0.09
16	1	B	Exterior	Concrete	Wall	Intact	Off-white	3.0	NEG	--	0.29	0.10
17	1	B	Exterior	Metal	Door	Intact	Turquoise	1.8	NEG	--	0.01	0.08
18	1	B	Exterior	Metal	Door	Intact	Turquoise	1.5	NEG	--	0.00	0.06
19	1	B	Exterior	Metal	Door	Intact	Turquoise	1.0	NEG	--	0.00	0.02
20	1	B	Exterior	Metal	Door	Intact	Turquoise	1.5	NEG	--	0.01	0.06
21	1	B	Exterior	Wood	Door casing	Intact	Off-white	1.9	NEG	--	0.16	0.07
22	1	B	Exterior	Wood	Door casing	Intact	Off-white	2.4	NEG	--	0.13	0.08
23	1	B	Exterior	Wood	Door casing	Intact	Off-white	2.1	NEG	--	0.13	0.09
24	1	B	Exterior	Wood	Door casing	Intact	Off-white	2.4	NEG	--	0.31	0.11
25	1	B	Exterior	Metal	Downspout	Intact	Off-white	2.9	NEG	--	0.12	0.16
26	1	B	Exterior	Wood	Lower trim	Fair	Tan	2.8	NEG	--	0.12	0.17
27	1	B	Exterior	Wood	Upper trim	Fair	Tan	2.0	NEG	--	0.32	0.12
28	1	B	Exterior	Wood	Window casing	Fair	Tan	1.0	NEG	--	0.00	0.04
29	1	B	Exterior	Wood	Upper support beams	Intact	Tan	2.7	NEG	--	0.16	0.13
30	1	B	Exterior	Wood	Lower support beams	Intact	Tan	2.0	NEG	--	0.13	0.13
31	1	A	Exterior	Wood	Window casing	Intact	Off-white	2.4	NEG	--	0.15	0.10
32	1	A	Exterior	Wood	Wall columns	Intact	Tan	1.4	NEG	--	0.21	0.11
33	1	A	Exterior	Wood	Door casing	Intact	Off-white	2.1	NEG	--	0.31	0.17

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
34	1	A	Exterior	Metal	Door	Intact	Turquoise	2.1	NEG	--	0.01	0.10
35	1	B	Exterior	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.01	0.08
36	1	C	Exterior	Concrete	Wall	Intact	Off-white	2.5	NEG	--	0.17	0.09
37	1	C	Exterior	Wood	Door casing	Intact	Off-white	1.3	NEG	--	0.09	0.08
38	1	C	Exterior	Concrete	Foundation	Poor	Off-white	1.9	NEG	--	0.16	0.09
39	1	C	Exterior	Metal	Door	Intact	Turquoise	1.6	NEG	--	0.01	0.19
40	1	D	Exterior	Metal	Door	Intact	Turquoise	5.5	NEG	--	0.30	0.30
41	1	D	Exterior	Metal	Door	Intact	Turquoise	1.4	NEG	--	0.07	0.10
42	1	D	Exterior	Metal	Door	Intact	Turquoise	2.1	NEG	--	0.13	0.09
43	1	D	Exterior	Metal	Door	Intact	Turquoise	2.9	NEG	--	0.20	0.15
44	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.2	NEG	--	0.13	0.14
45	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.1	NEG	--	0.11	0.11
46	1	D	Exterior	Wood	Door casing	Intact	Off-white	1.7	NEG	--	0.13	0.11
47	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.8	NEG	--	0.36	0.17
48	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.0	NEG	--	0.18	0.10
49	1	D	Exterior	Concrete	Wall	Intact	Off-white	2.6	NEG	--	0.25	0.12
50	1	D	Exterior	Metal	Downspout	Intact	Off-white	1.2	NEG	--	0.08	0.06
51	1	C	Exterior	Metal	Ventilation grate	Intact	Off-white	3.4	NEG	--	0.31	0.19
52	1	D	Exterior	Metal	Ventilation grate	Intact	Off-white	3.1	NEG	--	0.10	0.15
53	1	D	Exterior	Wood	Window sill	Fair	Off-white	2.0	NEG	--	0.21	0.11
54	1	D	Exterior	Metal	Gate	Fair	Off-white	4.4	NEG	--	0.53	0.16
55	1	D	Exterior	Metal	Gate	Fair	Off-white	4.7	NEG	--	0.36	0.18
56	1	A	Recreation Room	Concrete	Wall	Intact	Off-white	1.7	NEG	--	0.11	0.07
57	1	A	Recreation Room	Wood	Baseboard	Intact	Natural	10.0	INCOM	--	0.06	0.12
58	1	A	Recreation Room	Wood	Wall molding	Intact	Natural	1.0	NEG	--	0.00	0.07
59	1	C	Recreation Room	Wood	Wall panel	Intact	Natural	1.0	NEG	--	0.00	0.04
60	1		Recreation Room	Wood	Floor	Intact	Natural	1.0	NEG	--	0.00	0.05
61	1	B	Recreation Room	Concrete	Wall	Intact	Off-white	2.1	NEG	--	0.14	0.09
62	1	D	Recreation Room	Concrete	Wall	Intact	Off-white	2.0	NEG	--	0.12	0.11
63	1	A	Recreation Room	Wood	Window trough	Intact	Off-white	2.0	NEG	--	0.27	0.10

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
64	1	A	Recreation Room	Wood	Window casing	Intact	Off-white	1.2	NEG	--	0.16	0.08
65	1	B	Recreation Room	Wood	Window casing	Intact	Off-white	2.3	**POS**		1.08	0.17
66	1	B	Recreation Room	Wood	Window casing	Intact	Off-white	1.8	NEG	--	0.35	0.14
67	1	B	Recreation Room	Wood	Window casing	Good	Off-white	1.8	**POS**	1 EA	0.73	0.11
68	1	B	Recreation Room	Wood	Window trough	Intact	Off-white	2.3	NEG	--	0.27	0.17
69	1	C	Recreation Room	Wood	Window casing	Intact	Off-white	1.6	NEG	--	0.30	0.14
70	1	C	Recreation Room	Wood	Window trough	Intact	Off-white	1.9	**POS**	1 EA	1.37	0.25
71	1	C	Recreation Room	Wood	Window casing	Intact	Off-white	1.7	**POS**	1 EA	0.92	0.15
72	1	C	Recreation Room	Wood	Window trough	Intact	Off-white	1.9	**POS**	1 EA	0.89	0.15
73	1	C	Recreation Room	Wood	Window casing	Intact	Off-white	1.4	NEG	--	0.16	0.09
74	1	C	Recreation Room	Wood	Window trough	Intact	Off-white	1.6	NEG	--	0.33	0.14
75	1	C	Recreation Room	Metal	Roof support beams	Intact	Tan	1.1	NEG	--	0.07	0.06
76	1	C	Recreation Room	Wood	Roof support beams	Intact	Tan	2.4	NEG	--	0.23	0.13
77	--	--	Shutter Calibration				--	0.0	...	--	--	--
78	--	--	Standard Calibration 1.06 -/- 0.06 mg/cm^2				--	0.0	POS	--	1.06	0.08
79	--	--	Standard Calibration 1.06 -/- 0.06 mg/cm^2				--	1.0	POS	--	1.03	0.03
80	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.07	0.08
81	1	A	Hall	Tile	Wall	Intact	Tan	1.7	**POS**	20 SF	15.78	2.53
82	1	A	Hall	Metal	Door	Intact	Turquoise	1.9	NEG	--	0.10	0.09
83	1	A	Hall	Wood	Door casing	Intact	Off-white	1.8	NEG	--	0.15	0.11
84	1	B	Hall	Plaster	Wall	Intact	Off-white	2.7	NEG	--	0.42	0.14
85	1	B	Hall	Wood	Door	Intact	Turquoise	2.5	NEG	--	0.17	0.16
86	1	B	Hall	Wood	Door casing	Intact	Off-white	2.3	NEG	--	0.24	0.17
87	1	C	Hall	Plaster	Wall	Intact	Off-white	2.6	NEG	--	0.39	0.15
88	1	C	Hall	Wood	Door casing	Intact	Off-white	3.3	NEG	--	0.37	0.13

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
89	1	C	Hall	Wood	Door	Intact	Turquoise	2.5	NEG	--	0.10	0.15
90	1	D	Hall	Plaster	Wall	Intact	Off-white	3.6	NEG	--	0.45	0.16
91	1	D	Hall	Wood	Door casing	Intact	Off-white	2.0	NEG	--	0.12	0.12
92	1	D	Hall	Wood	Door	Intact	Off-white	1.8	NEG	--	0.09	0.10
93	1		Hall	Plaster	Ceiling	Intact	Off-white	1.9	NEG	--	0.04	0.09
94	1	A	Kitchen	Plaster	Wall	Intact	Off-white	1.8	NEG	--	0.05	0.11
95	1	A	Kitchen	Wood	Upper cabinet door	Intact	Off-white	1.2	NEG	--	0.05	0.06
96	1	A	Kitchen	Wood	Lower cabinet door	Intact	Off-white	1.5	NEG	--	0.02	0.08
97	1	B	Kitchen	Plaster	Wall	Intact	Off-white	1.4	NEG	--	0.04	0.06
98	1	B	Kitchen	Wood	Window casing	Intact	Off-white	2.2	NEG	--	0.07	0.12
99	1	C	Kitchen	Plaster	Wall	Intact	Off-white	1.7	NEG	--	0.07	0.07
100	1	C	Kitchen	Wood	Cabinet door	Intact	Off-white	1.1	NEG	--	0.03	0.06
101	1	C	Kitchen	Tile	Baseboard	Intact	Green	1.7	**POS**	50 LF	18.07	1.93
102	1	D	Kitchen	Plaster	Wall	Intact	Off-white	2.0	NEG	--	0.07	0.07
103	1	D	Kitchen	Wood	Window trough	Intact	Off-white	1.8	**POS**	20 LF	0.95	0.14
104	1	D	Kitchen	Wood	Window trough	Intact	Off-white	2.0	**POS**	See Reading 103	1.08	0.21
105	1	D	Kitchen	Wood	Window casing	Intact	Off-white	1.1	NEG	--	0.13	0.07
106	1		Kitchen	Tile	Floor	Intact	Green	3.1	NEG	--	0.02	0.12
107	1		Kitchen	Plaster	Ceiling	Intact	Off-white	1.5	NEG	--	0.07	0.08
108	1		Porch	Tile	Floor	Intact	Green	5.7	NEG	--	0.04	0.11
109	1	C	Porch	Tile	Baseboard	Intact	Green	1.6	**POS**	15 LF	12.20	2.66
110	1	C	Porch	Concrete	Wall	Intact	Off-white	1.7	NEG	--	0.14	0.11
111	1	D	Porch	Concrete	Wall	Intact	Off-white	2.4	NEG	--	0.11	0.13
112	1	C	Janitor's closet	Concrete	Wall	Intact	Green	1.3	NEG	--	0.16	0.09
113	1	C	Janitor's closet	Other	Wall	Intact	Green	1.7	**POS**	30 SF	14.35	2.70
114	1	C	Janitor's closet	Wood	Wall shelf	Intact	Green	1.0	NEG	--	0.06	0.04
115	1	A	Boiler	Concrete	Wall	Intact	Green	1.2	NEG	--	0.14	0.06
116	1	B	Boiler	Concrete	Wall	Intact	Green	1.2	NEG	--	0.11	0.07
117	1	C	Boiler	Concrete	Wall	Intact	Green	1.3	NEG	--	0.16	0.07
118	1	D	Boiler	Concrete	Wall	Intact	Green	1.6	NEG	--	0.19	0.11
119	1		Boiler	Metal	Furnace	Intact	Green	1.0	NEG	--	0.02	0.01
120	1		Boiler	Metal	HVAC ducts	Intact	Green	1.5	NEG	--	0.07	0.09

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
121	1	A	Boiler	Metal	Pipes	Intact	Green	1.0	NEG	--	0.08	0.02
122	1	A	Class 1	Plaster	Wall	Intact	Off-white	1.2	NEG	--	0.05	0.05
123	1	C	Class 1	Plaster	Wall	Intact	Off-white	2.9	NEG	--	0.12	0.14
124	1	D	Class 1	Wood	Window trough	Intact	Off-white	2.3	NEG	--	0.24	0.13
125	1	D	Class 1	Wood	Window casing	Intact	Off-white	1.4	NEG	--	0.12	0.09
126	1	B	Class 1	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.00	0.08
127	1	B	Class 1	Wood	Window trough	Intact	Off-white	3.0	NEG	--	0.27	0.18
128	1	B	Class 1	Concrete	Wall	Intact	Off-white	3.6	NEG	--	0.19	0.19
129	1	A	Class 2	Concrete	Wall	Intact	Off-white	2.2	NEG	--	0.29	0.10
130	1	C	Class 2	Plaster	Wall	Intact	Off-white	2.3	NEG	--	0.35	0.14
131	1	C	Class 2	Wood	Upper cabinet door	Intact	Off-white	1.0	NEG	--	0.01	0.06
132	1	C	Class 2	Wood	Lower cabinet door	Intact	Off-white	1.0	NEG	--	0.04	0.05
133	1	C	Class 2	Wood	Upper cabinet wall	Intact	Off-white	1.1	NEG	--	0.04	0.06
134	1	C	Class 2	Wood	Lower cabinet wall	Intact	Off-white	1.5	NEG	--	0.03	0.08
135	1	B	Class 2	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.01	0.12
136	1	B	Class 2	Wood	Window trough	Intact	Off-white	1.5	NEG	--	0.27	0.12
137	1	B	Storage	Concrete	Wall	Intact	Tan	1.7	NEG	--	0.35	0.13
138	1	D	Storage	Plaster	Wall	Intact	Tan	1.3	NEG	--	0.40	0.13
139	1	D	Storage	Plaster	Wall	Intact	Off-white	1.0	NEG	--	0.05	0.05
140	2	D	Exterior	Concrete	Wall	Intact	Off-white	1.8	NEG	--	0.16	0.10
141	2	D	Exterior	Metal	Door	Intact	Yellow	2.0	NEG	--	0.08	0.10
142	2	D	Exterior	Wood	Door casing	Intact	Off-white	1.6	NEG	--	0.10	0.10
143	2	A	Storage	Concrete	Wall	Intact	Green	1.2	NEG	--	0.14	0.08
144	2	B	Storage	Wood	Window casing	Intact	Green	1.0	NEG	--	0.08	0.05
145	2	C	Storage	Wood	Shelves	Intact	Green	1.5	**POS**	50 SF	8.54	2.00
146	2	D	Storage	Wood	Wall hooks and bracket	Intact	Green	1.0	NEG	--	0.55	0.03
147	2	D	Storage	Concrete	Wall	Intact	Green	1.8	NEG	--	0.20	0.13
148	2	B	Exterior	Concrete	Wall	Intact	Off-white	1.6	NEG	--	0.09	0.07
149	2	B	Exterior	Wood	Window trough	Intact	Off-white	3.0	NEG	--	0.40	0.16
150	2	B	Exterior	Wood	Door	Intact	Turquoise	1.0	NEG	--	0.00	0.07
151	2	B	Exterior	Wood	Door casing	Intact	Off-white	2.4	NEG	--	0.12	0.15
152	2	B	Exterior	Metal	Downspout	Intact	Off-white	1.0	NEG	--	0.00	0.08
153	2	C	Exterior	Concrete	Wall	Intact	Off-white	2.8	NEG	--	0.09	0.12

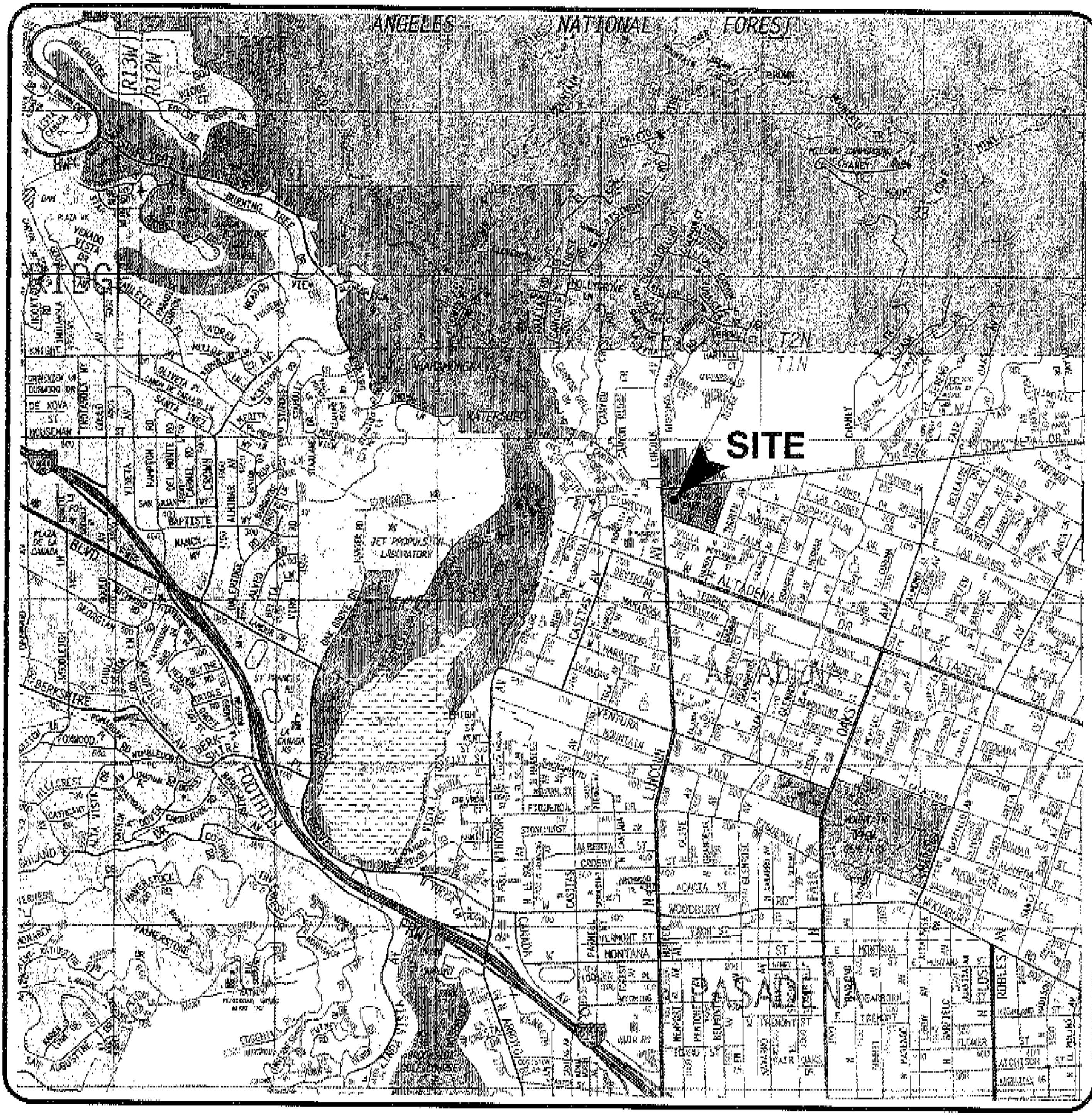
Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
154	2	C	Exterior	Concrete	Door casing	Intact	Off-white	5.4	NEG	--	0.24	0.21
155	2	D	Exterior	Concrete	Wall	Intact	Off-white	2.7	NEG	--	0.09	0.12
156	2	D	Exterior	Wood	Door casing	Intact	Off-white	1.3	NEG	--	0.07	0.07
157	2	D	Exterior	Wood	Door	Intact	Turquoise	1.9	NEG	--	0.09	0.09
158	2	A	Office	Plaster	Wall	Intact	Off-white	1.7	NEG	--	0.01	0.11
159	2	B	Office	Wood	Cabinet door	Intact	Off-white	2.0	NEG	--	0.01	0.12
160	2	B	Office	Wood	Cabinet wall	Intact	Off-white	1.6	NEG	--	0.03	0.09
161	2	B	Office	Wood	Window trough	Intact	Off-white	2.6	NEG	--	0.13	0.16
162	2	B	Office	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.00	0.05
163	2	A	Office	Metal	Radiator	Intact	Off-white	1.0	NEG	--	0.01	0.03
164	2	C	Janitor's closet	Plaster	Wall	Intact	Green	1.2	NEG	--	0.07	0.06

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm^2)	Precision (+/- mg/cm^2)
165	2	A	Janitor's closet	Other	Wall	Intact	Green	1.7	**POS**	50 SF	13.58	2.78
166	2	A	Women's Restroom	Other	Wall	Intact	Tan	1.6	**POS**	250 SF	14.44	2.83
167	2	B	Women's Restroom	Plaster	Wall	Intact	Turquoise	2.2	NEG	--	0.11	0.12
168	2	B	Women's Restroom	Wood	Window casing	Intact	Tan	1.6	NEG	--	0.07	0.09
169	2	D	Women's Restroom	Wood	Door casing	Intact	Tan	1.9	NEG	--	0.18	0.11
170	2	C	Women's Restroom	Wood	Door	Intact	Tan	3.5	NEG	--	0.15	0.15
171	2		Women's Restroom	Tile	Floor	Intact	Brown	1.2	NEG	--	0.01	0.07
172	2	D	Women's Restroom	Tile	Baseboard	Intact	Tan	1.7	**POS**	50 LF	13.24	2.85
173	2		Men's Restroom	Tile	Floor	Intact	Green	1.0	NEG	--	0.00	0.01
174	2	A	Men's Restroom	Tile	Wall	Intact	Green	1.6	**POS**	300 SF	15.92	2.89
175	2	B	Men's Restroom	Plaster	Wall	Intact	Tan	7.4	NEG	--	0.13	0.21
176	2	B	Men's Restroom	Wood	Window w	Intact	Tan	3.3	NEG	--	0.27	0.2
177	2	B	Men's Restroom	Wood	Stall door	Intact	Tan	2.1	NEG	--	0.05	0.1
178	2	B	Men's Restroom	Wood	Stall wall	Intact	Tan	3.2	NEG	--	0.11	0.17
179	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.08	0.08
180	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.05	0.05
181	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm^2				--	1.0	POS	--	1.05	0.08

Notes
POS = Positive
NEG = Negative
SF = Square feet
LF = Linear feet
EA = Each
mg/cm^2 = milligrams per square centimeter



REFERENCE: 2000 THOMAS GUIDE FOR LOS ANGELES/ORANGE COUNTIES, STREET GUIDE AND DIRECTORY

NORTH

0 2400 4800

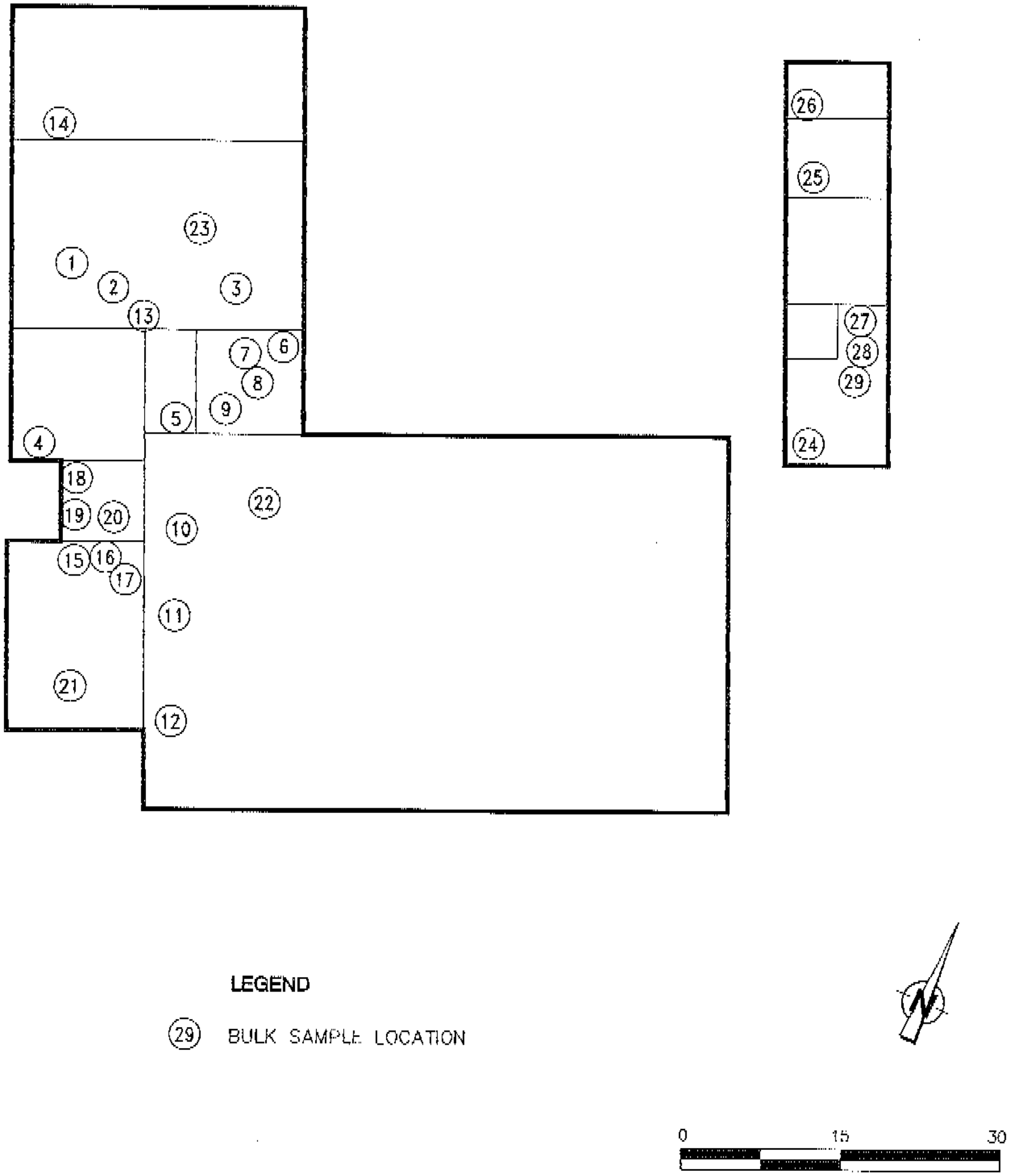
APPROXIMATE SCALE IN FEET

Ninyo & Moore

SITE LOCATION MAP

LOMA ALTA COUNTRY PARK-RECREATION BUILDING
3330 NORTH LINCOLN AVENUE
ALTA LOMA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
203294048	12/2003	1



NOTE: ALL DIMENSIONS, DIRECTIONS AND LOCATIONS ARE APPROXIMATE.

Ninyo & Moore

SAMPLE LOCATION MAP

LOMA ALTA COUNTRY PARK-RECREATION BUILDING
3330 NORTH LINCOLN AVENUE
ALTA LOMA, CALIFORNIA

PROJECT NO.	DATE	FIGURE
203294048	12/2003	2

APPENDIX A

ASBESTOS ANALYTICAL RESULTS
AND CHAIN-OF-CUSTODY RECORDS

LA Testing
159 Pasadena Avenue, South Pasadena, CA 91030
Phone: (323) 254-9960 Fax: (323) 254-9982 Email: pasadenalab@latesting.com

LA TESTING

Attn: Dana Williams
Ninyo & Moore
475 Goddard
Suite #200
Irvine, CA 92618
Fax: (949) 753-7071 Phone: (949) 753-7070
Project: **203294048/Loma Alta Park**

Customer ID: 32ninm50
Customer PO:
Received: 12/18/03 9:00 AM

EMSL Order: 320306557
EMSL Project ID:
Analysis Date: 12/19/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos				Asbestos
ample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
1 T *320306557-0001*	classrm	Green Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
. M *320306557-0030*	classrm	Brown/Black Non-Fibrous Heterogeneous	Teased			95%	Non-fibrous (other)	**5% Chrysotile**
T *320306557-0002*	classrm	Green Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
M *20306557-0031*	classrm	Brown Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
T *20306557-0003*	classrm	Green Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
3 M *20306557-0032*	classrm	Brown Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
4 *20306557-0004*	kitchen	White/Beige Non-Fibrous Heterogeneous	Crushed Dissolved			100%	Non-fibrous (other)	**None Detected**
5 *20306557-0005*	hall	White/Beige/Gree n Non-Fibrous Heterogeneous	Crushed Dissolved			100%	Non-fibrous (other)	**None Detected**
6 *0306557-0006*	storage rm	White/Beige Non-Fibrous Heterogeneous	Crushed Dissolved			100%	Non-fibrous (other)	**None Detected**

alyst(s)

Duong Kieu-anh (35)

or other approved signatory

PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Negative PLM results cannot be guaranteed. Samples reported as <1% or none detected should be tested with TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by LA Testing, Inc. e above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government.
alysis performed by LA Testing (NVLAP #200232-0)

PLM-1

LA Testing
159 Pasadena Avenue, South Pasadena, CA 91030
Phone: (323) 254-9960 Fax: (323) 254-9982 Email: pasadenalab@latesting.com

LA TESTING

Attn: Dana Williams
Ninyo & Moore
475 Goddard
Suite #200
Irvine, CA 92618
Fax: (949) 753-7071 Phone: (949) 753-7070
Project: **203294048/Loma Alta Park**

Customer ID: 32ninm50
Customer PO:
Received: 12/18/03 9:00 AM

EMSL Order: 320306557
EMSL Project ID:
Analysis Date: 12/19/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

ample	Location	Appearance	Treatment	Non-Asbestos %	Fibrous	%	Non-Fibrous	Asbestos % Type
7 *320306557-0007*	storage rm	Brown/White Fibrous Heterogeneous	Teased	20%	Cellulose	80%	Gypsum	None Detected
J *320306557-0008*	storage rm	Brown/White Fibrous Heterogeneous	Teased	20%	Cellulose	80%	Gypsum	None Detected
 320306557-0009	storage rm	Brown/White Fibrous Heterogeneous	Teased	20%	Cellulose	80%	Gypsum	None Detected
0 *320306557-0010*	rec rm	Brown/White Fibrous Heterogeneous	Teased	20%	Cellulose	80%	Non-fibrous (other)	None Detected
1 *20306557-0011*	rec rm	Brown/White Fibrous Heterogeneous	Teased	20%	Cellulose	80%	Non-fibrous (other)	None Detected
12 *20306557-0012*	rec rm	Brown/White Fibrous Heterogeneous	Teased	20%	Cellulose	80%	Non-fibrous (other)	None Detected
13 *20306557-0013*	classrm	Beige Non-Fibrous Heterogeneous	Crushed Dissolved			100%	Non-fibrous (other)	None Detected
14 *20306557-0014*	classrm	White/Beige Non-Fibrous Heterogeneous	Crushed Dissolved			100%	Non-fibrous (other)	None Detected
15 *320306557-0015*	heater rm	Beige Fibrous Homogeneous	Teased	10%	Min. Wool	80%	Non-fibrous (other)	**10% Chrysotile**

ıalyst(s)

Duong Kieu-anh (35)

or other approved signatory

PLM has been known to miss asbestos in a small percentage of samples which contain asbestos. Negative PLM results cannot be guaranteed. Samples reported as <1% or none detected should be tested with TEM. The above test report relates only to the items tested. This report may not be reproduced, except in full, without written approval by LA Testing, Inc. ıe above test must not be used by the client to claim product endorsement by NVLAP nor any agency of the United States Government.
ıalysis performed by LA Testing (NVLAP #200232-0)

LA Testing
159 Pasadena Avenue, South Pasadena, CA 91030
Phone: (323) 254-9960 Fax: (323) 254-9982 Email: pasadenalab@latesting.com

LA TESTING

Attn:	Dana Williams Ninyo & Moore 475 Goddard Suite #200 Irvine, CA 92618	Customer ID:	32ninm50
		Customer PO:	
		Received:	12/18/03 9:00 AM
Fax:	(949) 753-7071 Phone: (949) 753-7070	EMSL Order:	320306557
Project:	**203294048/Loma Alta Park**	EMSL Project ID:	
		Analysis Date:	12/19/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

;ample	Location	Appearance	Treatment	Non-Asbestos % Fibrous		Non-Asbestos % Non-Fibrous	Asbestos % Type
16 *320306557-0016*	heater rm	Beige Fibrous Homogeneous	Teased	10%	Min. Wool	80% Non-fibrous (other)	**10% Chrysotile**
17 *320306557-0017*	heater rm	Beige Fibrous Homogeneous	Teased	10%	Min. Wool	80% Non-fibrous (other)	**10% Chrysotile**
18 *320306557-0018*	w entry	Tan/Gray Non-Fibrous Heterogeneous	Crushed Dissolved			100% Non-fibrous (other)	None Detected
19 *320306557-0019*	w entry	Tan/Gray Non-Fibrous Heterogeneous	Crushed Dissolved			100% Non-fibrous (other)	None Detected
20 *320306557-0020*	w entry	Tan/Gray Non-Fibrous Heterogeneous	Crushed Dissolved			100% Non-fibrous (other)	None Detected
21 *320306557-0021*	roof	Gray/Black Non-Fibrous Heterogeneous	Teased	10%	Synthetic	90% Non-fibrous (other)	None Detected
22 *320306557-0022*	roof	Gray/Black Non-Fibrous Heterogeneous	Teased	10%	Synthetic	90% Non-fibrous (other)	None Detected
23 *320306557-0023*	roof	Gray/Black Non-Fibrous Heterogeneous	Teased	10%	Synthetic	90% Non-fibrous (other)	None Detected
24 *320306557-0024*	office/restrm bldg	Green/White Non-Fibrous Heterogeneous	Crushed Dissolved			100% Non-fibrous (other)	None Detected

ıalyst(s)

Duong Kieu-anh (35)

or other approved signatory

LA Testing
159 Pasadena Avenue, South Pasadena, CA 91030
Phone: (323) 254-9960 Fax: (323) 254-9982 Email: pasadenalab@latesting.com

LA TESTING

Attn: Dana Williams
Ninyo & Moore
475 Goddard
Suite #200
Irvine, CA 92618
Fax: (949) 753-7071 Phone: (949) 753-7070
Project: **203294048/Loma Alta Park**

Customer ID: 32ninm50
Customer PO:
Received: 12/18/03 9:00 AM

EMSL Order: 320306557
EMSL Project ID:
Analysis Date: 12/19/2003

Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

				Non-Asbestos				Asbestos
ample	Location	Appearance	Treatment	%	Fibrous	%	Non-Fibrous	% Type
25 *320306557-0025*	office/restrm bldg	Green/White/Beige Non-Fibrous Heterogeneous	Crushed Dissolved	<1%	Cellulose	100%	Non-fibrous (other)	**None Detected**
26 *320306557-0026*	office/restrm bldg	Beige/White Non-Fibrous Heterogeneous	Crushed Dissolved			100%	Non-fibrous (other)	**None Detected**
27 T *320306557-0027*	office	Various Non-Fibrous Homogeneous	Teased			95%	Non-fibrous (other)	**5% Chrysotile**
27 M *320306557-0033*	office	Black Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
28 T *320306557-0028*	office	Various Non-Fibrous Homogeneous	Teased			95%	Non-fibrous (other)	**5% Chrysotile**
28 M *320306557-0034*	office	Black Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**
29 T *320306557-0029*	office	Various Non-Fibrous Homogeneous	Teased			95%	Non-fibrous (other)	**5% Chrysotile**
29 M *320306557-0035*	office	Black Non-Fibrous Homogeneous	Teased			100%	Non-fibrous (other)	**None Detected**

nalyst(s)

Duong Kieu-anh (35)

or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

32030655 7

CHAIN OF CUSTODY

LA TESTING

Date: 12/17/03
Your Name: Dana Williams
Company: Ninyo & Moore
Address: 475 Goddard, Suite 200
City, State Zip: Irvine, CA 92618

Phone Results To:
Fax Results To: 949/753-7071

LA TESTING - Bill To:
Name:
Company:
Address:
City, State Zip:

Purchase Order #:
LA TESTING SALES REP: STEVE PARKS

Project Name / Number: Loma Alta Park / 203294048

Requested Analysis: Place (x)

ASBESTOS	RUSH	6 HR	12 HR	24 HR	48 HR	72 HR	5 DAY	> 6 DAYS
TEM AIR								
EPA LEVEL II	***							
AHERA	***							
NIOSH 7402	***							
PCM AIR								
NIOSH, OSHA								
PLM BULK								
EPA600/R-93/116					X			
EPA Point Count								
TEM BULK								
DropMount(qualitative)								
Conventional	---------							
Chatfield - Gravimetric	---------	---------						
Microvac (ASTM)	---------							
Microvac (qualitative)	---------							
Wipes (qualitative)								
Wipes (quantitative)	---------							
TEM -WATER								
Drinking Water	---------	---------						
Waste Water, Sludge	---------	---------						
Sovents, Chemicals, Oil	---------	---------						

LEAD	RUSH	6 HR	12 HR	24 HR	48 HR	72 HR	5 DAY	> 6 DAYS
FLAME AA chips, wipes, air, soil, wastewater								

Client Sample Numbers: 1 - 29

Total Number Of Samples: 29

Relinquished By: [signature] Date: 12/17/03 Time:
Received By: [signature] Date: 12/18 Time: 9 AM
Relinquished By: Date: Time:
Received By: Date: Time:

ASBESTOS BULK SAMPLE DATA SHEET

Sheet of

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	Project Name : Loma Alta Park Project No.: 203294048 Project Manager: Dana Williams	Date Sampled: 12/15/03 Sampled By: Dana Williams Sampled By: Date Sampled:	Laboratory: LA Testing-159 Pasadena Avenue South Pasadena, CA 91030 Tel: (800) 303-0047 Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time: (24 hr.)	Received By: (sign/print)	Laboratory
D Williams	Ninyo&Moore	12/17/03	9 AM		12/18
/				/	

LabID	Sample ID	Building Number	Sample Location	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	1		Classroom	Green Floor Tile + Mastic			
	2		↓	↓			
	3						
	4		Kitchen	Plaster			
	5		Hall	↓			
	6		Storage Room				
	7		Storage Room	Button Board			
	8		↓	↓			
	9						
	10		Rec Room	Ceiling Material			
	11		↓	↓			
	12						

SAMPLES ACCEPTED FOR ANALYSIS LA TESTING

BLANKCOC 35509-ASB-COC

ASBESTOS BULK SAMPLE DATA SHEET

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name :** Loma Alta Park Project No.: 203294048 Project Manager: Dana Williams	Date Sampled: 12/15/03 Sampled By: Dana Williams Sampled By: Date Sampled:	**Laboratory:** LA Testing-159 Pasadena Avenue South Pasadena, CA 91030 Tel: (800) 303-0047 Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
D. Williams / D. Williams	Ninyo&Moore	12/17/03	9 AM	/	12/18
/					

LabID	Sample ID	Building Number	Sample Location	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	13		Classroom	Plaster			
	14		↓	↓			
	15		Heater Room	Mudded Joint Packing			
	16		↓	↓			
	17						
	18		West Entry	Stucco			
	19		↓	↓			
	20						
	21		Roof	Roofing Material			
	22		↓	↓			
	23						
	24		Office/Restroom Building	Plaster			

ASBESTOS BULK SAMPLE DATA SHEET

653[illegible]

Ninyo & Moore 475 Goddard, Suite 200 Irvine, CA 92618 Tel: (949) 753-7070 Fax: (949) 753-7071	**Project Name :** Loma Alta Park Project No.: 203294048 Project Manager: Dana Williams	Date Sampled: 12/15/03 Sampled By: Dana Williams Sampled By: Date Sampled:	**Laboratory:** LA Testing-159 Pasadena Avenue South Pasadena, CA 91030 Tel: (800) 303-0047 Fax:

CHAIN OF CUSTODY INFORMATION:

Relinquished By: (sign/print)	Company	Date	Time (24 hr.)	Received By: (sign/print)	Laboratory
[signature] / D Williams	Ninyo&Moore	12/17/03	9:00AM	[signature]	12/18

LabID	Sample ID	Building Number	Sample Location	Sample Description	Quantity (SF/LF/EA)	Friable (Y/N)	Condition
	25		Office/Restroom Building	Plaster			
	26		↓				
	27		Office	Tan Floor Tile + Mastic			
	28						
	29		↓	↓			

BLANKCOC 35509-ASB-COC

APPENDIX B

XRF TESTING METHODOLOGY

XRF TESTING METHODOLOGY

To assess the painted surfaces for future contractor worker safety, x-ray fluorescence (XRF) testing technologies were utilized. The testing was conducted in general accordance with the following regulations: 1) Title 17, California Code of Regulations, Division 1, Chapter 8, Accreditation Certification, and Work Practice in Lead Related Construction, Section 36000.

After a visual assessment, accessible painted surfaces were screened for lead content with a NITON 309 XRF spectrum analyzer. XRF readings were taken using the standard paint mode. Standard paint mode measurements have no predetermined testing length, and automatically adjust to account for various types of substrates and material's densities.

In the standard paint mode, the NITON 309 XRF tests until a K-shell result is indicated as either positive or negative, compared to the threshold level based on the current precision of the test. Correction for paint matrix and substrate effects is performed automatically.

XRF readings were made on testing combinations in all room equivalents in an effort to test typical materials which are representative of the room equivalent. Testing combinations were tested non-destructively by holding the XRF against the surface being tested. At each XRF sample location the shutter is opened, and one reading was made using the standard paint testing mode. Results of each test were read from the digital display of the instrument console and recorded on the XRF Data Sheet attached as Table 2.

To ensure that the XRF equipment was working properly, various quality control tests were performed before, during, and after the on-site work. At the beginning of the work day, three start up validation measurements were made in the standard paint calibration mode, using the calibration check standard associated with the particular XRF that was used. This painted standard contains a known quantity of lead and allows the XRF operator to determine whether the instrument is functioning within acceptable tolerance ranges for accuracy and precision, as determined by the manufacturer.

In addition to the three starts up tests, calibration readings were taken on the red 1.06 mg/cm^2 and/or yellow 1.57 mg/cm^2 Standard Reference Material (SRM) paint film, developed by the National Institute of Standards and Technology (NIST). Results of each reading were recorded on the XRF Data Sheet. This calibration check was also performed after four hours and at the end of the day. The quality control tests taken during testing at the subject property were within the acceptable performance range prescribed by the XRF equipment manufacturer. Documentation of the quality control calibration check is included in the XRF Data Sheet, Table 2.

APPENDIX C

DHS FORM 8552 – LEAD HAZARD EVALUATION REPORT

LEAD HAZARD EVALUATION REPORT

Section 1—Date of Lead Hazard Evaluation December 15, 2003

Section 2—Type of Lead Hazard Evaluation (Check one box only)

☐ Lead inspection ☐ Risk assessment ☐ Clearance inspection ☒ Other (specify) Lead testing

Section 3—Structure Where Lead Hazard Evaluation Was Conducted

Address [number, street, apartment (if applicable)]	City	County	ZIP code
3330 N. Lincoln Avenue,	Altadena	Los Angeles	91001

Construction date (year) of structure

Type of structure (check one box only): ☐ Single family dwelling ☐ Multi-unit building ☐ Child-occupied facility ☒ Other (specify) Rec. Facility & Office

Section 4—Owner of Structure (If business/agency, list contact person)

Name		Telephone number	
County of Los Angeles / Mike Patel		(626) 300-2359	
Address [number, street, apartment (if applicable)]	**City**	**State**	**ZIP code**
900 S. Freemont Ave, 5th Floor	Alhambra	CA	91803-1331

Section 5—Results of Lead Hazard Evaluation (Check one box only)

☐ **No lead-based paint detected.**
A lead inspection was conducted following the procedures outlined in Title 17, California Code of Regulations, Division 1, Chapter 8. No lead-based paint was detected during this lead inspection. This structure is found to be lead-based paint free.

☐ **No lead hazards detected.**
Lead hazard evaluation was conducted following the procedures outlined in Title 17, California Code of Regulations, Division 1, Chapter 8. No lead hazards were detected.

☒ **Lead-based paint and/or lead hazards detected.**
Lead hazard evaluation was conducted following the procedures outlined in Title 17, California Code of Regulations, Division 1, Chapter 8. Lead-based paint and/or lead hazards were detected.

Section 6—Individual Conducting Lead Hazard Evaluation

Name		Telephone number	
John Brendon Phelan		(858) 576-1000 x1292	
Address [number, street, apartment (if applicable)]	**City**	**State**	**ZIP code**
5710 Ruffin Road	San Diego	California	92123

Brand name and serial number of any portable x-ray fluorescence (XRF) instrument used (if applicable)

Niton 309, Serial Number XL309-U4037NR4861

DHS certification number	Signature	Date
10692	➤ J. Brendon Phelan	12/17/03

Section 7—Attachments

A. A foundation diagram or sketch of the structure indicating the specific locations of each lead hazard or presence of lead-based paint;

B. Each testing method, device, and sampling procedure used;

C. All data collected, including quality control data, laboratory results, including laboratory name, address, and phone number.

First copy and attachments retained by inspector

Second copy and attachments retained by owner

Third copy only (no attachments) mailed to:
Department of Health Services
Childhood Lead Poisoning Prevention Branch
Reports
1515 Clay Street, No. 1801
Oakland, CA 94612

FAX (510) 622-5002

ASBESTOS ABATEMENT AND LEAD-RELATED CONSTRUCTION SPECIFICATIONS LOMA ALTA COUNTY PARK RECREATION BUILDING 3330 NORTH LINCOLN AVENUE ALTA LOMA, CALIFORNIA

PREPARED FOR:
County of Los Angeles, Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

PREPARED BY:
Ninyo & Moore
Geotechnical and Environmental Sciences Consultants
475 Goddard, Suite 200
Irvine, California 92618

December 30, 2003
Project No. 203294048

December 30, 2003
Project No. 203294048

Mr. Mike Patel
County of Los Angeles, Department of Public Works
900 South Fremont Avenue, 5th Floor
Alhambra, California 91803-1331

Subject: Asbestos Abatement and Lead-Related Construction Specifications
Loma Alta County Park – Recreation Building
3330 North Lincoln Avenue
Alta Loma, California

Dear Mr. Patel:

In accordance with your request and our proposal, Ninyo & Moore has prepared Asbestos Abatement Specifications and coordinated the preparation of Specifications for Lead-related Construction for the Loma Alta County Park Recreation Building. These specifications will serve as a guidance document to contractors for the removal/renovation and management of asbestos-containing building materials (ACBMs) and lead-based paint (LBP).

Ninyo & Moore is pleased to be of continued service to you on this important project. If you have any questions or comments regarding the attached document, please contact the undersigned at (949) 753-7070.

Sincerely,
NINYO & MOORE

Dana E. Williams.
Certified Asbestos Consultant No 93-1168

DEW/mll

Distribution: (6) Addressee

TABLE OF CONTENTS

1. ASBESTOS ABATEMENT & REMOVAL SPECIFICATIONS

1.1. Scope of Work

The scope of work for the abatement project will involve the full abatement of asbestos-containing building materials (ACBMs) which are to be impacted by abatement activities at the Recreation Building. ACBMs that may potentially be impacted during abatement activities include:

- Approximately 1,000 square feet (SF) of mastic associated with green floor tile, containing 5 percent chrysotile asbestos, located in the recreation room hall, and classrooms, observed to be in good condition.
- Approximately 6 mudded joints on 4 inch diameter piping, containing 10 percent chrysotile asbestos, located in the boiler room, noted to be in good condition.
- Approximately 120 SF of tan floor tile, containing 5 percent chrysotile asbestos, located in the office area, noted to be in good condition.
- Approximately 50 SF of plastic roof cement, assumed to be asbestos containing, located on roof penetrations, noted to be in good condition.
- Approximately 10 SF of vibration joint compound, assumed to be asbestos containing, located in the heater room, noted to be in good condition.
- Approximately 2 linear feet of transite piping, assumed to be asbestos containing, located on the floor of the heater room, noted to be in good condition.

The activities listed below will be performed as part of the scope of work.

- Contractor is responsible for decontamination of fixtures and equipment remaining in the work area.
- The Contractor shall furnish all labor, materials, services, insurance, equipment, and decontamination facilities to carry out the complete removal and disposal of all ACBMs identified in these Specifications. The Contractor shall make all quantity take offs to determine actual quantities.
- Work shall be performed in accordance with all applicable regulations, codes, ordinances, and standards of governing authorities having jurisdiction and the requirements specified herein.

Contractor shall furnish all labor, material, supervision, construction tools, and equipment necessary to perform the following work:

- Removal of all identified ACBMs. Contractor shall verify quantities and locations.
- Provide and maintain environmental and occupational safety protective measures, equipment, and procedures at the work site.
- Clean the work site to completely remove all visually apparent asbestos and to reduce the airborne concentrations as described in Section 10.
- If in the course of removing ACBMs from the site, the Contractor discovers any other ACBMs, other than those described in plans, reports, or specifications, the Contractor shall notify the Owner in writing and, after receiving Owner's approval, the Contractor will remove and dispose of such item(s) at the contract unit price identified by the Contractor in his bid.
- With respect to available utilities, the Contractor shall coordinate access and use of all utilities as needed for the duration of the project with the Owner. If utilities are unavailable, the Contractor will be required to provide utilities. The Contractor shall obtain all necessary permits from the County of Los Angeles, South Coast Air Quality Management District and other authorities having jurisdiction.
- Package, transport, and disposal of all asbestos to an approved disposal site.
- Cooperate with Owner's Representative with regard to air monitoring and observation of procedures.

1.2. Definitions

- "Aggressive method" means removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact ACBM.
- "Amended water" means water to which surfactant (wetting agent) has been added to increase the ability of the liquid to penetrate ACBM.
- "Asbestos" includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these materials that has been chemically treated and/or altered. "Asbestos" includes Presumed Asbestos Containing Material (PACM).
- "Asbestos Consultant" shall be the independent party retained by the Owner to provide consultation and supervision services for asbestos abatement activities.

- "Asbestos-containing construction material" means any material containing more than one tenth of one percent asbestos.

- "ACBM" means any material containing more than one percent asbestos.

- "Authorized person" means any person authorized by the employer and required by work duties to be present in regulated areas.

- "Class I asbestos work" means activities involving the removal of thermal system insulation (TSI) and surfacing ACBM and PACM.

- "Class II asbestos work" means activities involving the removal of asbestos containing materials (ACM) which is not thermal system insulation or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile, and sheeting, roofing and siding shingles, and construction mastics.

- "Clean room" means an uncontaminated room having facilities for the storage of employees' street clothing and uncontaminated materials and equipment.

- "Closely resemble" means that the major workplace conditions which have contributed to the levels of historic asbestos exposure, are no more protective than the conditions of the current workplace.

- "Competent person" means, in addition to one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them: in addition, for Class I and Class II work who is specially trained in a training course which meet the criteria of the Environmental Protective Agency (EPA) model accreditation Plan (40 Code of Federal Regulations [CFR] 763) for project designer or supervisor, or its equivalent.

- "Critical barrier" means one or more layers of plastic sealed over all openings into a work area or any other similarly placed physical barrier sufficient to prevent airborne asbestos in a work area from migrating to an adjacent area.

- "Decontamination area" means an enclosed area adjacent and connected to the regulated area and consisting of an equipment room, shower area, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

- "Demolition" means the wrecking or taking out of load-supporting structural member and any related razing, removing, or stripping of asbestos products.

- "Disturbance" means contact that releases fibers from ACBM or PACM or debris containing ACBM or PACM. This term includes activities that disrupt the matrix of ACBM or PACM, render ACBM or PACM friable, or generate visible debris. Disturbance includes cutting away small amounts of ACBM and PACM, no greater than the amount which can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACBM or PACM so disturbed exceed that which can be contained in one glove bag or waste bag which shall not exceed 60 inches in length and width.

- "Employee exposure" means that exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.
- "Equipment room (change room)" means a contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.
- "Fiber" means a particulate form of asbestos, 5 micrometers or longer, with a length to diameter ratio of at least 3 to 1.
- "Glovebag" means an impervious plastic bag-like enclosure affixed around asbestos containing material, with glove-like appendages through which materials and tools can be handled.
- "High-efficiency particulate air (HEPA) filter" means a filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometer in diameter.
- "Homogenous area" means an area of surfacing material or thermal system insulation that is uniform in color and texture.
- "Industrial hygienist" means a professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.
- "Intact" means that the ACBM has not crumbled, been pulverized, or otherwise deteriorated so that it is no longer likely to be bound with its matrix.
- "Modification" means a changed or altered procedure. Material or component of a control system, which replaces a procedure. Material or component of a required system. Omitting a procedure or component, or reducing or diminishing the stringency or strength of a material or component of the control system is not a "modification."
- "Negative initial exposure assessment" means a demonstration by the employer which complies with the criteria in 8 California Code of Regulations (CCR) 1529, subsection (f)(2)(c), that employee exposure during an operation is expected to be consistently below the Permissible Exposure Limit (PEL).

- "PACM" means "presumed asbestos-containing material."

- "Presumed Asbestos-containing Material" means thermal system insulation and surfacing material found in buildings constructed no later than 1980. The designation of material as "PACM" may be rebutted pursuant to 8 CCR 1529, subsection (k)(4).

- "Project Designer" means a person who has successfully completed the training requirements for the abatement project designer established by 40 U.S.C. Sec. 763.90(g).

- "Regulated area" means an area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and a work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the permissible exposure limit.

- "Removal" means all operations where ACBM and/or PACM are taken out or stripped from structures or substrates, and includes demolition operations.

- "Renovation" means the modifying of an existing structure, or portion thereof.

- "Repair" means overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACBM or PACM attached to structures or substrates.

- "Surfacing material" means material that is sprayed, troweled-on, or otherwise applied to surfaces (such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes).

- "Surfacing ACBM" means surfacing material which contains more than 1 % asbestos.

- "TSI" means ACBM applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.

- "TSI ACBM" is thermal system insulation that contains more than 1% asbestos.

1.3. Notifications

Notification of asbestos abatement activities shall be provided by the Contractor as required and in accordance to all applicable federal, state, and local agencies prior to the start of abatement activities.

1.4. Quantity Takeoff

All ACBM quantities shall be determined by the bidder and no claim for additional cost will be accepted by the Owner as a result of quantities of ACBM to be removed except those provided for in these Specifications.

1.5. Submittals

- Manufacturer's Product Data
    - Local Exhaust Equipment.
    - Vacuum Equipment.
    - Respirators.
    - Pressure Differential Monitor.
- Plan for Removal and Demolition of Asbestos: Submit a detailed job–specific plan of the Work procedures to be used in the removal and demolition of materials containing asbestos at least two weeks prior to the start of Work.
    - The plan shall be prepared and signed by the Contractor.
    - Such plan shall include a sketch showing the location, size, and details of asbestos control areas, location and details of the change rooms, layout of change rooms, layout, and location of waste container pass–out airlock system, and locations of local exhaust equipment.
    - The plan shall also include interface of trades involved in the construction, sequencing of asbestos–related Work, disposal plan, type of wetting agent of removal encapsulant to be used, respirators, protective equipment, pressure differential monitoring devices, and a detailed description of the method to be employed in order to control pollution.
    - The plan shall include copies of emergency, security and contingency plans as follows:
        - A plan to provide emergency and fire evacuation for removing workers from the work zone in an emergency. A copy of this plan shall be filed with the local fire and/or ambulance unit.
        - A plan for maintaining the security of the work zone. The security plan shall provide a means of preventing accidental or unauthorized entry.

- A contingency plan addressing emergencies, equipment failures, and barrier failure. This plan shall include telephone numbers of representatives of the Contractor to be contacted in emergencies.

  - The plan shall be approved by the Owner's representative prior to the start of asbestos abatement Work.

  - Prior to beginning Work, the Owner, and Contractor shall meet to discuss in detail the asbestos plan, including Work procedures and safety precautions.

- Field Test Reports

  - Air Sampling Results: Fiber counting shall be completed and results reviewed by the Owner. The Owner shall notify the Contractor immediately of exposure to asbestos fibers in excess of the PEL.

  - Pressure Differential Recordings for Local Exhaust Systems: The Contractor shall review and report the pressure differential recordings within 24 hours from the end of each day, and immediately report to the Owner variance in the permissible pressure differential which could cause adjacent unsealed areas to have asbestos fiber concentration in excess of 0.01 fibers per cubic centimeter or background, whichever is higher.

  - Asbestos Disposal Quantity Report: The Contractor shall review and report to the Owner within 24 hours from the end of each day, the amount of asbestos–containing material removed during the previous day.

- Administrative and Closeout Submittals

  - Notification of Equipment Rental: If rental equipment is to be used during asbestos handling and disposal, written notification concerning the intended use of the equipment will be furnished to the rental agency, with a copy to the Owner.

  - Landfill Delivery Records: *Within 3 days* after delivery of asbestos–containing material to the landfill, submit detailed delivery tickets, and hazardous waste manifests, prepared, signed, and dated by an agent of the landfill, certifying the amount of materials delivered to the landfill.

  - Waste Disposal Site Approval: Submit recommended waste disposal site to the Owner for approval prior to the start of the project. Submit written evidence to the Owner prior to disposal, that the waste disposal site is approved for asbestos disposal by the EPA and other applicable authorities. At job completion, these records shall be inserted into the job binder and transmitted to the Owner's Representative.

- Personnel Training Certificates: Prior to the Notice to Proceed, the successful Contractor shall submit to the Owner's representative a declaration certifying that all of the Contractor's employees have been adequately trained in accordance with CCR Title 8, § 1529. The Contractor shall also submit proof that all personnel who will be permitted to enter contaminated Work Areas have been adequately trained in accordance with CCR Title 8 § 1529 for certification as an Asbestos Worker or Supervisor for Class I asbestos abatement projects.

- Medical Examination and Certification: Prior to the Notice to Proceed, the Contractor shall submit proof that all personnel who will be permitted to enter contaminated Work Areas have had medical examinations in accordance with CCR Title 8, § 1529, and Provide a written certification signed by a licensed physician that all workers and supervisors have met or exceeded all of the medical prerequisites listed herein and in CCR Title 8, § 1529 and 29 CFR 1910.134.

- Contractor Licensing Board Asbestos Certification: Submit a copy of the Subcontractor's California State Contractor's Licensing Board Asbestos Certification in accordance with the California Business and Professional Code, § 7058.5, to the Contractor.

- Contractor Class C Asbestos Removal License: Submit proof that the Contractor possesses a current California Class C Asbestos Removal License to the Owner.

- Hazardous Waste Hauler License and EPA Transporter's Number: Submit proof that the Contractor or the Contractor's Hazardous Waste Hauler possesses a current Hazardous Waste Hauler License and EPA Transporter's Number to the Owner.

- At job completion, Contractor shall transmit the job binder to Owner's Representative. Contents shall be as described in this section plus any additional items as designated by Owner's representative.

1.6. Quality Assurance

- Where methods or procedures are specified, they shall constitute minimum measures and shall in no way relieve Contractor of sole responsibility for the means, methods, techniques, sequences, or safety measures in connection with the work.

- The removal or asbestos shall be supervised by a licensed supervisor who has experience in this field of construction and can furnish a record of satisfactory performance on at least three projects for work of comparable type.

- Subcontractor qualifications shall be the same in form and quantity as required for Contractor.

- All work shall be performed in compliance with pertinent laws, rules and regulations existing at the time of the work, including but not limited to:
  - General Industry Safety and Health Standards, 29 CFR Part 1910.
  - Safety and Health Standards for the Construction Industry, 29 CFR Part 1926.
  - The Occupational Safety and Health Standards for Asbestos, 29 CFR 1910.1001 and 1926.1101.
  - The EPA National Emission Standard for Hazard Air Pollutants, National Emission Standard for Hazardous Air Pollutants, National Emission Standard for Asbestos, Title 40 CFR Part 6,1 (a) and (m).
  - The Occupational Safety and Health Standards, for respiratory protection (OSHA), Title 29, CFR 1910.134.
  - California Code of Regulations, Title 8, Section 1529, Asbestos in Construction.
  - The Transportation Safety Act, Hazardous Material Transportation Act, Title 49 CFR Parts 106, 107, 171-179.
  - The Asbestos Hazard Emergency Response Act (AHERA), 40 CFR, Part 763.
  - South Coast Air Quality Management District, Rule 1403.
  - All applicable state, local regulations, and ordinances, including any regulations regarding state and/or local licenses or certificates.
- Where applicable state or local regulations are more stringent than OSHA requirements or the requirements referenced herein, Contractor shall adhere to the more stringent regulations.
- The Contractor warrants that he is familiar with the codes and requirements applicable to asbestos abatement work and shall give all notices and comply with all laws, ordinances, rules, and regulations applicable to the work. If the Contractor observes that the Specifications or plans are at variance therewith, he shall give written notice to the Owner's representative describing such variance. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without written notice to the Owner's representative, he shall bear all costs arising therefrom. The Subcontractor's particular attention is directed to the applicable Cal-OSHA regulations found in CCR Title 8, 1529 and the necessity of complying with the regulations in the progress of his work. Failure or omission on the part of the Contractor, or any of their representatives, either to discover or to bring to the attention of the Owner any deviation from, omission from, or noncompliance with the requirements for asbestos

abatement shall not be used by the Contractor as defense for failure on his part to fulfill such requirements.

1.7. Products

- Polyethylene sheeting in sizes to minimize the frequency of joints.
- Tape: Glass fiber or other tape capable of sealing joints of adjacent plastic sheets and for attachment of plastic sheeting to finished or unfinished surfaces of dissimilar materials under both dry and wet conditions.
- Surfactant (Wetting Agent): Shall consist of materials that are non-toxic and non-irritating to skin and eye, and non-carcinogenic. The wetting agent shall consist of 50% polyoxyethylene or polyglycol ester and 50% polyoxyethylene ether, or the equivalent. Wetting agents shall be applied by means of an airless sprayer or equal.
- Encapsulant: Shall conform to United States Environmental Protection Agency requirements, shall contain no toxic or hazardous substances and no solvents.
- Impermeable Containers: Air and water-tight, suitable to receive and retain any asbestos-containing or contaminated materials until disposal at an approved site and labeled in accordance with applicable Cal-OSHA regulations (CCR Title 8, § 1529). Two types of impermeable containers shall be used:
  - Six (6) mil plastic bags.
  - Metal or fiber drums with tightly fitting lids.
- Warning Labels and Signs: In conformance with applicable Cal-OSHA regulations (CCR Title 8, § 1529).
- Other Materials: Provide all other materials, such as lumber, nails, and hardware that may be required to construct and dismantle the decontamination area and the barriers that isolate the Work area.

1.8. Execution

- Material Handling
  - Deliver materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
  - Store materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient to prevent damage or contamination.

- Remove all ACBM from the premises. Dispose of materials that become contaminated with asbestos in accordance with applicable regulatory standards.

- Equipment
  - Respirators: Contractor shall provide workers with personally issued and marked respiratory equipment approved by National Institute for Occupational Safety and Health (NIOSH) and meeting the specifications of Cal-OSHA. This respiratory equipment shall be suitable for the asbestos exposure level in the Work area according to CCR Title 8, § 1529 (i). The Contractor shall provide disposable HEPA (P100) cartridges as required, with sufficient replacement cartridges.
  - Personal Protective Equipment: Contractor shall provide workers, Owner, and authorized visitors with sets of protective disposable clothing, head covers, gloves, eye protection, and foot covers of sizes to properly fit individual workers and visitors whenever they are required to enter the Work area. Provide access and use of the Contractor's change room. Provide a minimum of four sets per day for visitors and sufficient sets as required for workers and Owner. The personal protective equipment shall remain the property of the Contractor.
  - Change Rooms: Provide a temporary unit with a separate equipment room, decontamination locker room, and a clean locker room for personnel required to wear whole body protective clothing.
    - Separate each room from the others and from the control area by airlocks.
    - Provide two separate lockers for each asbestos worker, one in each locker room.
    - Keep street clothing and street shoes in the clean locker.
    - Vacuum and remove asbestos–contaminated disposable protective clothing while still wearing respirators in the equipment room. Seal clothing in impermeable bags or containers for disposal.
    - Do not remove disposable protective clothing in the decontamination locker room.
    - Remove work clothing in the decontamination locker room.
    - Tag and bag cloth work clothes for laundering and keep work shoes in the decontamination locker room.
    - Do not wear work clothing between home and work.
    - Provide showers with hot and cold water.

- Locate showers between the decontamination locker room and the clean locker room, and require employees to shower before changing into street clothes.

- Shower wastewater shall be handled and disposed as asbestos–containing material or shall be filtered through a final filter of at least 0.5 micron particle size collection capability before disposal into the sanitary sewer system.

- Handle and dispose of wastewater filters as asbestos–containing material.

- Clean asbestos-contaminated work clothing in accordance with CCR Title 8, § 1529 or use disposable clothing.

- Change rooms shall be physically attached to the Work area wherever feasible and required.

- Eye Protection: Furnish goggles for personnel engaged in asbestos operation when a full-face respirator is not being used.

- Caution Signs and Labels: Provide caution signs printed in English and Spanish at approaches to asbestos Work areas. Locate signs at such distance that personnel may read the sign and take the necessary precautions before entering the Work area. Provide caution labels printed in English and Spanish. Affix labels to asbestos materials, scrap, waste, debris, sealed impermeable bags, asbestos waste drums, and other asbestos–containing products. Caution signs and labels shall conform to the requirements defined in CCR Title 8, § 1529.

- A minimum of one 4A/60BC dry chemical extinguisher shall be maintained at each of the following locations:

  - At each electrical panel.
  - At each corner of the Work area.
  - Within 5 feet of the external entry to the shower room from the Work area.
  - Within 5 feet of the external entry to the shower room from the "clean room."

- Tools and Local Exhaust System: Provide the local exhaust system in accordance with American National Standards Institute (ANSI) Z9.2 and as specified herein.

  - Provide a local exhaust system in each Work area.

  - Filters on vacuums and exhaust equipment shall be absolute HEPA filters and Underwriters Laboratories (UL) 586 labeled.

  - Provide local exhaust equipment designed for a minimum of one Work area air change every 15 minutes and additional air change flow rate sufficient to maintain a minimum pressure differential of minus 0.02 inches of water column relative to adjacent, unsealed areas. Local exhaust equipment shall be operated 24 hours per day until the asbestos control area is removed. The Contractor is responsible for providing all necessary manpower and/or equipment including but not limited to emergency power, security, and fire watch to ensure 24-hour operation.

- Additional Ventilation Units: Provide Local Exhaust Systems to the site in accordance with these Specifications for use inside the containment in the event engineering controls are not effective in controlling the fiber count below the PEL during the removal process. The unit(s) shall be placed inside the containment as an addition filtration in a manner to move the air away from the worker's breathing zones and towards the exhaust unit(s).
- Backup Ventilation Units: Provide at a minimum one additional Local Exhaust System for up to every 10 units on the site for replacement if a ventilation unit fails to operate properly. These backup units must be stored on site during the entire project duration.
- Provide a manometer–type or magnehelic–type negative pressure differential monitor with minor scale divisions of 0.02 inches of water and accuracy within plus or minus one percent.
- Calibrate the manometer daily and as recommended by the manufacturer.
- Furnish recorded readings of the pressure differential between locations in the Work area and adjacent unsealed areas at the beginning of each workday and every 2 working hours thereafter.
- Pressure differential readings shall be taken at several points inside the Work area, including the furthest point from the local exhaust equipment.
- The local exhaust system shall be operated continuously, 24 hours per day, until the asbestos control area enclosure is removed.
- Replace filters as required to maintain the efficiency of the system.
- The building HVAC system shall not be used as the local exhaust system for the Work area.

• Worker Protection

  - Prior to commencement to work, all workers shall be instructed and shall be knowledgeable in the appropriate procedures of personal protection and asbestos removal.
  - Contractor shall be solely responsible for enforcing worker protection requirements.

  - Reporting Unusual Events: When an event of unusual and significant nature occurs at the site, Contractor shall prepare and submit a special report listing chain of events, persons participating, responses, and similar pertinent information. When such events are known or predictable in advance, advise the Owner at the earliest possible date.

  - Reporting Accidents: If a significant accident occurs at the site or anywhere else work is in progress, the Contractor shall prepare and submit appropriate reports to the Owner. For this purpose, a significant accident is defined to include events where personal injury is sustained, or property loss of substance is sustained.

- General Work Area Requirements

  - Workers shall always wear a respirator properly fitted on the face while in the Work area. Workers wearing tight-fitting face pieces shall be clean-shaven to the extent that the hair does not interfere with the sealing surface of the respirator. This must be documented by a standard respirator fit test.

  - The Contractor shall instruct and train workers in proper respirator use.

  - Workers shall wear disposable, full-body coveralls and disposable head covers and footwear suitable for asbestos work in the Work area.

- Decontamination Unit Requirements: At all Work areas, the Contractor shall set up a change room, shower, and equipment room outside the Work area. Where feasible and required the change room, shower, and equipment room will be attached to the Work area. All workers without exception shall:

  - Remove and properly store street clothes in the change room and put on new disposable coveralls, head covers, footwear, and cleaned respirator before entering the Work area.

  - Remove the disposable coveralls, head covers, and footwear in the equipment room and dispose them in an appropriate asbestos waste container. Still wearing their respirators, workers shall proceed to the showers and remove their respirators while showering with soap and tempered water. Wetted HEPA respirator cartridges shall be disposed of in appropriate asbestos containers.

  - This procedure shall be followed each time a worker enters or leaves the Work area.

  - Workers shall not eat, drink, smoke, or chew gum or tobacco in the Work area.

  - The Contractor shall provide disposable coveralls, head covering, and footwear to any official representative of the Owner who inspects the project.

  - All persons entering the Work area shall wear an approved respirator and disposable coveralls, head covering, and footwear.

- Daily personal air monitoring shall be conducted by the Contractor in order to determine the airborne concentrations of asbestos to which workers may be exposed.

- Sign-In/Sign-Out Log & Daily Activity Report

  - Contractor shall maintain a sign-in/sign-out log in the immediate vicinity of the change room of any decontamination area. This log shall be maintained from the time the first activity is performed involving the disturbance of asbestos-containing material until acceptance of the final air test results. All persons entering the Work area, including the Contractor's workers, Owner, Owner's consultants, and Government officials, shall be required to sign in and out each time upon entering and leaving the Work area. All persons shall indicate name, time, company or agency represented, and reason for entering the Work area.

  - Contractor shall maintain a daily activity report describing work performed, materials and methods used, inspections made, test taken, and any unusual conditions or problems.

  - Except for governmental inspectors having jurisdiction, no visitors shall be allowed in any work area, except as authorized by the Owner.

- Housekeeping

  - The Contractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by their employees. Bags of asbestos material and other waste material shall be removed immediately at the completion of work. Maintain surfaces of the Work area free of debris and keep waste from being distributed outside of the immediate Work area.

  - Removal of Asbestos Waste Containers: Provide a waste container removal system. Asbestos waste containers shall not be removed through the change rooms. The waste container removal system shall consist of a washdown station inside the Work area, a washroom, and a waste container holding area. Provide airlocks between each area and an airlock with access to outside the Work area from the holding areas. Provide caution signs as specified herein for asbestos Work areas. The waste container removal system shall be a temporary unit constructed to prevent the escape of asbestos fibers from the area. The system shall be physically attached to the Work area. Personnel entering the waste container removal system shall wear personal protective equipment. The system shall not be used to enter or exit the Work area. Access to outside the waste container removal system shall be sealed except during the removal of asbestos waste containers. Perform cleanup of the waste container removal system as specified herein for enclosed Work areas. Do not remove the waste container removal system enclosure and caution signs prior to receipt of the Owner's clearance certification. All asbestos waste containers shall be removed from the Work area daily.

- Procedure for Disposal of Asbestos: Do not remove any asbestos–containing materials from the site without approval from the Owner. Procedure for hauling and disposal of asbestos waste shall comply with 40 CFR 61, Subpart M and CCR Title 22, and South Coast Air Quality Management District (SCAQMD) Rule 1403.

- Work Area Preparation

  - Provide Warning Signs meeting regulatory requirements at each visual and physical barrier.

  - Where appropriate, the Contractor shall seal all openings with a 6-mil minimum polyethylene containment barrier to prevent leakage of air into the outside environment or other portions of the building. Individually seal ventilation openings in walls (supply and exhaust), wall-mounted fixtures, doorways, windows, convectors, and other wall and floor openings into the Work area with adhesive tape alone or with 2 layers of polyethylene sheeting at least 6-mil (true), taped securely in place with adhesive tape.

  - The Contractor shall pre-clean movable objects to be salvaged for the Contractor within the proposed Work areas using HEPA vacuum equipment or wet cleaning methods as appropriate. The Contractor shall move such items to storage or other area as directed by the Owner.

  - The Contractor shall pre-clean immovable objects, such as mechanical and electrical equipment and fixtures, within proposed Work area using HEPA vacuuming equipment or wet cleaning methods as appropriate.

  - Prior to placing plastic sheeting, clean the Work area(s) and immediately adjacent areas physically connected to abatement areas using HEPA vacuum equipment or wet-cleaning methods as appropriate. Do not use methods that raise dust such as broom sweeping or vacuuming with non-HEPA equipped vacuum cleaners.

  - Contain Work Areas with two layers of 4-mil plastic sheeting on walls and ceilings, and two layers of 6 mil plastic sheeting on floors, or as otherwise directed in writing by the Asbestos Consultant.

  - Install as a drop cloth a 6-mil sheet of plastic in areas where asbestos removal work is to be carried out. Completely cover floor with sheet plastic. Where the work is within 10 feet of a wall, extend the drop cloth up wall. Support sheet plastic on wall with duct tape, seal top of drop cloth plastic to Primary Barrier with duct tape so that debris is unable to get behind it. Provide cross strips of duct tape at wall support as necessary to support sheet plastic and prevent its falling during removal operations. Remove drop cloth at end of each work shift or as work in an area is completed.

- The Contractor shall construct worker and waste container/equipment decontamination units in compliance with USEPA guidelines. Provide sufficient numbers of lockers in change or "clean" rooms or worker's clothing with one locker reserved for Owner personnel.

- The Contractor shall establish emergency exits and procedures for the Work area, satisfactory to fire officials and provide fire extinguishers as required.

- The Contractor shall ensure that barriers and plastic enclosures remain effectively sealed and taped. Inadvertent tears in plastic shall be repaired with fiber tape and the tear covered by plastic applied with spray adhesive, overlapping the tear by 6 inches on all sides.

- If during performance of abatement work suspect ACBM is observed outside of abatement enclosures, or if damage occurs to the enclosure barrier(s), work shall stop immediately upon discovery, appropriate repairs will be made (by Contractor), and all such debris will be collected using appropriate vacuums and wet methods.

1.9. Asbestos Removal

- General: In a Work area, the Contractor shall:

  - Remove and dispose of all asbestos containing materials in accordance with the methods and procedures outlined in CCR Title 8, § 1529.

  - Where appropriate, enclose Work areas under differential air pressure for the duration of the asbestos removal and subsequent cleaning phases and until all removal areas have been air-tested and found to be in compliance with the specified final air quality clearance level as determined by the Owner.

  - Perform appropriate cleaning using HEPA vacuum or wet cleaning methods of all areas physically connected to areas receiving asbestos removal.

  - Dispose of all contaminated or otherwise removed materials and wastes in sealed and labeled containers in an approved sanitary landfill.

  - Never use high pressure water streams to remove any type of ACBM.

  - After removal, all surfaces shall be wet-cleaned and HEPA vacuumed to remove residual accumulated material. After cleaning, surfaces shall appear free of visible material.

- Prior to the removal of the plastic sheeting from the wall and floor surfaces, apply approved sealant on all concrete substrates, structural steel, and piping surfaces from which the material was removed and to plastic sheeting prior to its removal.

- Following related repair work remove any remaining floor and wall plastic, including seals on openings, and dismantle worker waste container/equipment decontamination areas and leave all areas clean.

- Eating, smoking, or applying cosmetics shall not be permitted in the Work areas.

- Removal of OSHA Class I Materials within a Negative Pressure Enclosure System (NPE).

  - A NPE will be used for the removal of friable ACBMs within building.

  - Before beginning work within the enclosure and at the beginning of each shift, the NPE shall be inspected for breaches and smoke-tested for leaks by the Asbestos Consultant. Any leaks detected will be sealed by the Contractor.

  - Electrical circuits in the enclosure shall be deactivated and locked out. Temporary power and portable lighting sources will be provided from outside the work area; insure safe installation (including using ground fault circuit interrupters (GFCI) of temporary power sources and equipment by compliance with all applicable electrical code requirements and Federal, state and local requirements.

  - Thoroughly wet to satisfaction of Asbestos Consultant, ACBM prior to removal. Accomplish wetting by a fine spray (mist) of amended water or removal encapsulant applied with airless spray equipment.

  - Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels. Apply mist with airless spray equipment.

- Removal of OSHA Class II Materials within a NPE.

  - A NPE will be used for the removal of asbestos-containing drywall joint compound, floor tile, roofing materials, window putty, and construction mastics within building.

  - Before beginning work within the enclosure and at the beginning of each shift, the NPE shall be inspected for breaches by the Asbestos Consultant. Any leaks detected will be sealed by the Contractor.

  - Electrical circuits in the enclosure shall be deactivated and locked out. Temporary power and portable lighting sources will be provided from outside the work area; insure safe installation (including using ground fault circuit interrupters (GFCI) of temporary power sources and equipment by compliance with all applicable electrical code requirements and Federal, state and local requirements.

- Thoroughly wet to satisfaction of Asbestos Consultant, ACBM prior to removal. Accomplish wetting by a fine spray (mist) of amended water applied with airless spray equipment. All surfaces must be kept damp throughout the abatement.
- Mist work area continuously with amended water whenever necessary to reduce airborne fiber levels. Apply mist with airless spray equipment.
- Utilize approved manual methods to remove the ACBMs. Electrically-powered vibrating equipment and open flame or blowtorches are not acceptable methods for removing ACBM. Breakage of the flooring materials must be minimized.
- Wet wipe and vacuum the entire area with a HEPA vacuum to collect any small chips or pieces that may remain after removal activities.
- Inspect the Work area for any visible signs of residue. If found, the Work must be re-cleaned by wet wiping and HEPA vacuuming the entire Work area.
- Remove flooring mastic using an approved solvent that does not contain methylene chloride, ethylene glycol, or flammable solvents. Follow the manufacturer's recommended procedures. Wet the residual material and dispose of waste and rags as ACBM. Wet vacuum any standing water with a HEPA vacuum.

1.10. Closure

- ACM should be placed in labeled, leak-tight containers and/or wrapping. The labels shall contain all information as specified by the Occupational Safety and Health Standards of the Department of Labor, OSHA under 1926.1101(k)(2)(iii) and Title 8, Section 5229, and any local regulations.
- For temporary storage on site, ACBMs shall be stored in a secured area. The area shall be demarcated with Asbestos Warning Signs.
- Work areas and all other decontaminated areas and cleaned areas shall be considered clean when a) the Work area passes a visual inspection by the Consultant and b) air testing performed by the Consultant employed by the Owner.
- Areas that do not comply with the standard of cleaning for final clearance shall continue to be cleaned by and at the Contractor's expense until the specified standard is achieved as evidenced by results of air sampling tests by the Owner. The costs of all follow-up tests necessitated by the failure of the air tests to meet the cleaning criteria shall be borne by the Contractor; the Owner will deduct the cost of such follow-up tests from whatever moneys remain due to the Contractor. Follow-up testing shall occur within the

time allotted for gross removal or all costs to the Owner of the building attributable to delayed occupancy or usage shall be borne by the Contractor.

- When the clearance is achieved (fiber concentrations of less than 0.01 fiber per cubic centimeter [f/cc]) and an inspection determines that the area has been visually decontaminated, the decontamination enclosure systems shall be removed, the area thoroughly wet cleaned, and materials from the equipment room and shower disposed of as contaminated waste. The remaining barriers between contaminated and clean areas and all seals on openings into the Work area and fixtures shall be removed and disposed of as contaminated waste.

- All plastic sheeting, tape, cleaning material, clothing, and all other disposable material used in the asbestos removal operation or items used in the Work area shall be packed into sealable 6-mil plastic bags. These bags must be marked with labels as required by Cal-OSHA in CCR Title 8, § 1529.

2. LEAD-RELATED CONSTRUCTION SPECIFICATION

The lead-related construction specification for the Loma Alta County Park Recreation Building is provided as Appendix A.

APPENDIX A

LEAD-RELATED CONSTRUCTION SPECIFICATIONS

BARR & CLARK
Independent Environmental Testing
ASBESTOS · LEAD · PHASE I

LEAD-BASED PAINT ABATEMENT SPECIFICATIONS

OF

LOMA ALTA PARK RECREATION BUILDING
3330 N. LINCOLN AVENUE
ALTA LOMA, CA

PROJECT NO. 231256

DECEMBER 30, 2003

Prepared For:
Ninyo and Moore
475 Goddard, Suite 200
Irvine, CA 92618

Prepared By:

Robert Clark
State of California Certified
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Reviewed By:

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State of California Certified
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Project No. 231256

BARR & CLARK • 22850 Crenshaw Blvd., • Suite 200 • Torrance, California 90505 • (310) 517-0805 • Fax: (310) 517-0822

1.0 GENERAL

1.01 SUMMARY OF THE SCOPE OF WORK

1. A lead-based paint inspection by Ninyo and Moore *(dated December, 2003)* patterned after the **EPA** and **HUD** guidelines was prepared for the sole use of Ninyo and Moore and any regulatory agencies directly involved with the project. No other party should rely on the information contained within this report, without the prior written consent of Ninyo and Moore.

2. These specifications are for the above mentioned property located in Alta Loma, CA. The scope covered herein is for LEAD ABATEMENT only. It is not intended to be used for any other work scheduled.

3. The abatement activities will be coordinated with and integrated into planned rehabilitation activities for this property.

1.02 STANDARDS AND GUIDELINES

1. The current issues of each document shall govern, and where conflicts may exist, the more stringent requirements shall apply.

2. **The Contractor shall assume full responsibility and liability for compliance with all Federal, State and local regulations pertaining to lead abatement on this project** including medical examinations, monitoring and personal protective measures.

3. The Contractor shall indemnify the Owner and his Representative and save from any and all losses, costs and expenses including fines, judgments and reasonable attorney's fees incurred by the Owner for negligence on the part of the Contractor or any of his agents, whether accidental or intentional.

4. Compliance with the requirements of the applicable standards will be strictly enforced by the Owner or the Owner's Representative.

5. The Contractor shall comply with all provisions and/or responsibilities, as applicable, contained in the Guidelines for the Evaluation and Control of Lead-based Paint Hazards in Housing, June 1995, Department of Housing and Urban Development and with **Federal OSHA Sec. 1926.62**

6. The Contractor shall comply with the requirements of the California General Industry Safety and Health Standards, and the Safety and Health Regulations for Construction, Title 8, California Code of Regulations (CCR) including but not limited to the following sections:

Sec. 5144	Respiratory Protection
Sec. 2405.4	Electrical
Sec. 1637, 1640, 1658	Scaffolding
Sec. 1513	Housekeeping
Sec. 5194	Hazard Communication (Employee Right to Know)
Sec. 1675	Ladders
Sec. 3215 & 3220	Egress & Emergency Plans
Sec. 1514	Protective Equipment
Sec. 1519	Sanitation
Sec. 1684, 3555 & 3556	Powered Hand Tools
Sec. 1502	Contractors Responsibility
Sec. 1511	General Safety & Health Education
Sec. 1510	Safety Training & Education
Sec. 1527 & 3366	Washing Facilities
Sec. 1528	Gases, Vapors, Fumes, Dusts and Mists
Sec. 1531 & 5143	Ventilation
Sec. 3203	Injury and Illness Prevention Program
Sec. 3204	Access to Employee's Exposure and Medical Records
Sec. 6003	Accident Prevention Signs
Sec. 3221	Fire Prevention Plan
Sec. 1537	Ventilation, Welding, Cutting or Heating of Metals of Toxic Significance

7. The Contractor shall comply with the Federal Environmental Protection Regulations pertaining to disposal of lead-containing materials as well the State of California and any local agencies which have delegated responsibility for the administration and enforcement of Federal Regulations.

8. **The Contractor shall comply with all requirements of the EPA-approved landfill, which is selected as the disposal site and with RCRA waste requirements.**

1.03 OWNER'S REPRESENTATIVE

1. The Owner may secure the services of an independent third party to monitor the work activities of the abatement Contractor.
2. The Representative shall have sufficient experience with similar projects and be certified as a Project Monitor with the State of California Department of Health Services.
3. The Representative may conduct visual inspections of the work area before, during, and after abatement activities.
4. The Representative may inspect the site preparation and submittals, and give approval for work to proceed on behalf of the owner and may inspect the removal work and work area upon completion, and give final visual clearance before the Contractor may proceed with the next phase of work.
5. Inspections may be on a daily basis, or randomly as needed to insure the Owner's interest.
6. The Representative may take field samples as needed for clearance purposes.

1.04 SUBMITTALS AND NOTICES

1. Within seven (7) calendar days after notice to proceed, the Contractor will provide to the Owner or Owner's Representative the following:

   a. All required permits for lead abatement work and/or disposal of potentially-hazardous wastes and construction debris including but not limited to, the following:
   b. Designated transporter's licenses and insurance certificates.
   c. Designated waste disposal facility certifications/licenses.
   d. Shop drawing indicating areas to be used for Staging of equipment and decon facilities, storage areas etc.
   e. Abatement work plan.
   f. A written respiratory protection plan as required by **29 CFR 1926.62.**
   g. A written medical examination including all items required by **29 CFR 1926.62.**
   h. Employee training certifications for lead exposure for every employee expected to be on this job.
   i. Weekly work schedule.
   j. Manufacturer's information, including MSDS, for all materials and worker protection equipment.
   k. Copies of all OSHA Form 101 reports or equivalent.

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2.0 QUALIFICATIONS

2.01 CONTRACTOR

1. The contractor shall be currently licensed for the intended activities with the California Contractors State License Board (CSLB).
2. The Contractor performing the LBP abatement work shall have a minimum of one (1) year of experience performing LBP removal or abatement work on similar projects in scope and size. Documented proof of past experience will be requested consisting of a list of projects with references for confirmation. Insurance, according to the Owner's requirements, including workers' compensation, general liability and abatement liability in the amount of $500,000 per occurrence and $1,000,000 aggregate shall be provided.
3. The Contractor performing the work must be familiar with all applicable regulations covering LBP removal work. This includes all permits, licenses, and certifications required to perform this type of hazardous work as well as related disposal requirements.
4. The contractor shall employ at least one individual who has received certification as a California Department of Health Services Contractor/Supervisor.

2.02 WORKERS

1. All personnel must have minimum training, as established by the EPA-sanctioned emergency LBP Worker Training Standards, and in accordance with **CFR 1926.62**
2. All abatement workers on this project must also be certified through the State of California Department of Health Services, as a Lead Worker.

2.03 MATERIALS

1. <u>Encapsulants</u> - All encapsulating materials must have ASTM certification. All applications must be according to manufacturer's specifications. Any encapsulant without ASTM certification must receive approval in writing from either the owner or owner's representative.
2. <u>Primers</u> - All paint primers used on this job must be suitable for the intended substrate and compatible with the underlying paint and the intended paint. All applications must be according to manufacturer's specifications.
3. <u>Color's</u> - Any coating used as the final coating must have the color approved by the owner or owner's representative prior to application.
4. <u>Architectural Component's</u> - Any component that is replaced by the abatement contractor must be approved by the owner or owner's representative prior to installation.

3.0 WORKER HEALTH AND SAFETY

3.01 MEDICAL SURVEILLANCE

1. Workers must be properly trained and fitted in the care, use, and maintenance of respirators, with fit tests performed every 6 months.

2. A formal respiratory protection program must be implemented in accordance with **29 CFR 1926.62.**

3.02 PERSONAL PROTECTIVE EQUIPMENT

1. The minimum respiratory protection required for this project is as follows:

   a. Negative pressure half face air purifying respirators equipped with HEPA filters for airborne lead levels not in excess of 500 $\mu g/m^3$ (10 X pel[1]).

2. All workers in the LBP abatement area will wear the proper respirator for the lead concentration generated.

3. Disposable suits with hoods and booties shall be worn at all times that lead abatement is taking place. Goggles with a side shield are to be worn when working with power tools or liquid materials that could injure the eyes.

4. Additional respirator filters or protective clothing may be needed when using chemicals. Consult MSDS for requirements.

4.0 EXECUTION

4.01 SITE SECURITY

1. Contractor shall be responsible for all security related to all work and storage areas.

2. All Hazardous materials must be stored in enclosed and locked areas at the end of each work shift, and when no personnel are present. This area must be labeled, in English and Spanish, with proper warning labels.

[1] Permissible Exposure Level

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3. The Contractor shall maintain control of the site security at all times during the course of work to protect the work area and equipment, Contractor shall also be responsible for the proper storage and security of all equipment and materials left on site during off hours.

4.02 EMERGENCY PLANNING

1. Emergency planning and procedures shall be developed by the Contractor, and presented in written form, and prominently posted and approved by the Owner or his Representative, and shall include:

    a. Written notification to Police, Fire, and Emergency Medical personnel of planned lead abatement activities.
    b. Work schedules and layout of barriers which could impede response capabilities.
    c. Emergency telephone numbers, and locations of nearest emergency facilities, posted for all workers to see easily.
    d. Evacuation procedures shall also be written, and posted with the signatures of all workers, to acknowledge their receipt of training in such procedures.

4.03 WORK SCHEDULE

1. The Contractor shall furnish to the Owner or his Representative a schedule showing the anticipated starting and completion dates for each phase or area of abatement. The schedule shall be furnished seven (7) calendar days from issuance of the Owner's written Notice to Proceed. This schedule shall be reviewed weekly and updated as required. The work shall be carried out diligently to completion.

2. If it becomes necessary to maintain the projected schedule, the Owner may request additional manpower to complete the work on time. The Contractor is obligated to comply with this written request from the Owner or his Representative.

3. Site work shall begin immediately upon the Owner's approval of Contractor's LBP Work Plan. A pre-abatement safety meeting shall be held before beginning work.

4. During the abatement, other work can be phased and coordinated to facilitate the completion of concurrent projects.

4.04 PREPARATION OF WORK AREA

1. Preparation of the work area is dependent on the type of abatement to be performed, the expected levels of airborne lead concentrations, and is subject to change if the lead concentrations exceed anticipated levels.

2. The Contractor is responsible for the posting of all warning signs and submittals at the entrances and exits to the work area.

3. The Owner will provide all necessary power and water unless otherwise specified in writing.
4. A two-stage decontamination (decon) area, consisting of a clean room with sufficient wash facilities and a tool room/work area, shall be provided. A **"mini-containment"** system may be used for abatement consisting of the following, but not limited to:

   a. (2) layers of 6 mil polyethylene (poly) on floors where removal is needed.
   b. Critical barriers around the inside of all windows throughout.
   c. "Z" flaps over the entrances to all areas where removal occurs.
   d. Pre-Cleaning of interior by **HEPA** vacuuming and wet wiping with TSP throughout.

5. Sufficient "signage" in the form of pre-printed barrier tape shall be placed around the perimeter of the immediate work area in such a way as to prevent accidental encroachment by unauthorized personnel.

6. For exterior abatement, a double layer of 6 mil poly shall be securely attached to the perimeter of the building, at a minimum distance of 10 feet where possible. This barrier may be attached in increments as work progresses around the building. All poly will be removed daily and cleaned and disposed of properly before leaving the work site. In the event of winds in excess of 20 mph, work will stop and all debris cleaned up immediately.

7. No work may proceed without the approval of the Owner or his Representative after all preparation has been met.

8. Toilet facilities sufficient for the number of workers on this project shall be the responsibility of the Contractor.

9. Disposal bins of the proper type shall be the responsibility of the Contractor and shall be securely locked at the end of each day. All bins upon being filled shall be removed to the proper landfill as soon as possible.

10. A secure, locked storage area for all volatile chemicals is to be used.

11. In addition the Contractor must comply with the directions of the Owner or the Owner's Representative as the situation dictates.

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4.05 DISPOSAL OF WASTE MATERIALS

1. Building components on which the lead based paint is intact may be disposed of as non-hazardous construction debris, according to EPA and Cal EPA officials.

2. The following materials may be classified as non-hazardous for this project. The Owner or his Representative may reverse this presumption, based on contractor work practices or test results.

   a. Disposable work clothes and respirator filters.
   b. Filtered wash water.
   c. Wet-wiped or HEPA-vacuumed plastic sheeting.

3. The following materials are presumed to be hazardous.

   a. Paint chips
   b. HEPA vacuum debris and filters, dust from air filters and paint dust.
   c. Unfiltered liquid waste.
   d. Sludge from stripping.
   e. Rags, sponges, mops, scrapers and other materials used.

4. **It is the responsibility of the Contractor to comply with all RCRA, EPA and DOT regulations and any State or local regulations. In the case of conflict, the more stringent rule applies.**
5. **The contractor will be responsible for assisting the property owner in obtaining and completing all relevant permits, licenses, manifests, etc. for hazardous waste disposal.**

4.06 DAMAGES

1. The Contractor shall be responsible for the protection of all areas impacted by the scope of work, and the areas adjacent to substrates that are disturbed or damaged by this work. **Damages to non-protected areas, either accidental or from lack of due diligence, shall be repaired or replaced at the Abatement Contractor's expense.**

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4.07 CLEARANCE TESTING AND STANDARDS

Two separate post abatement clearance inspections will be conducted at this property. The first inspection will consist of a visual inspection to verify that all lead related work was completed as specified. After passing the visual inspection, The general contractor will be allowed to begin general construction activities. The second inspection will consist of collecting wipe samples to quantify the amount of residual lead in dust that remains on horizontal surfaces. Since this second test will be conducted after general construction activities, THE ABATEMENT CONTRACTOR SHOULD PLAN ON PERFORMING FINAL CLEAN-UP ACTIVITIES AFTER ALL CONSTRUCTION HAS BEEN COMPLETED.

1. After the abatement, clean-up, and waste removal, the Owner, Owner's representative, or General Contractor will conduct a visual inspection before any other rehabilitation activities begin. **It is strongly recommended that the Abatement Contractor is present for this inspection.**

2. The visual inspection will:
   - Verify that visible dust or paint chips are not present in any of the work areas or adjacent to the work areas.
   - Verify that all work was completed as specified.
   - Survey any collateral damages caused by the abatement contractor and establish a timetable for repairs.

3. Clearance samples will be collected by the Owner or Owner's Representative after ALL construction activities have been completed. Clearance samples shall be taken according to HUD LBP Guidelines and analyzed by a qualified laboratory. *The cost of initial clearance sampling will be the responsibility of the property owner.*

4. Wipe sample clearance is as follows:

a. **Floors**	**40 µg / ft^2 (micrograms per square foot)**
b. **Window Sills**	**250 µg / ft^2**
c. **Window Troughs**	**400 µg / ft^2**
d. **Exterior**	**400 µg / ft^2**

5. Depending on the nature of the abatement and the types of methods employed, other clearance criteria may be established before the work begins.

6. **If the test results are higher than permissible, the Abatement Contractor will be directed to re-clean until acceptable levels are met. The cost of any subsequent clearance inspections (including re-sampling costs) will be charged back to the abatement contractor through the property owner.**

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4.08 ABATEMENT OF LBP COMPONENTS

The following treatments, except as noted on a room by room basis, will be utilized at this property.

- Removal - The specified component(s) will be removed. Removal must be done in a manner that minimizes damage to adjacent surfaces. ANY REMOVAL OF DOORS OR WINDOWS MUST BE COORDINATED WITH THE GENERAL CONTRACTOR (GC) SO THAT THE PROPERTY IS NOT LEFT UNSECURED.

Work Requested -	**Estimated Cost**
1) ***All Lead-Laden Components*** - Since the building is scheduled for demolition, it is recommended that proportionate samples, representative of the entire mass of the prospective waste stream, be collected. These samples should then be analyzed according to the CAL EPA protocols for waste characterization. If any results indicate a hazardous waste product, the representative samples should be again collected with a modified strategy. The components with the highest lead content and relatively high mass should be segregated and analyzed separately from the remainder of the prospective waste stream. This is to minimize the amount of waste that will be classified as hazardous. *A summary of the lead-laden components include the following:* • *Recreation Room – window casings and troughs* • *Hall – tile wall(s)* • *Kitchen - window troughs and tiled baseboards* • *Porch – tiled baseboards* • *Janitor's Closet – wall* • *Storage – shelves*	$
2) **Waste Disposal (Hazardous & Non-hazardous)**	$
3) **Total Lead Abatement Cost**	$

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All work must be in compliance with these Abatement Specifications and current HUD Guidelines. Any additional work or changes that the Contractor deems appropriate to enhance the competitiveness of this bid may be added as an addendum to this form. Please fill out all requested information that follows:

Company Name: ______________________

Company Phone #: ____________________

Contact Person: ______________________

Date of Bid: ________________________

Total amount of Bid: $_________________

Estimated Time of Completion: ____________

I ______________________ hereby acknowledge that any work performed by on the above listed property will be done in compliance with these abatement specifications as well as all laws and regulations governing this type of activity.

______________________ Authorized Signature

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Table 2 - XRF Data Sheet

Reading No.	Bldg	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Pb Estimate Quantity (SF/LF/EA)	Lead Reading (mg/cm²)	Precision (+/- mg/cm²)
1	--	--	Shutter Calibration				--	0.0	...	--	--	--
2	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.15	0.09
3	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.08	0.05
4	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.14	0.09
5	1	A	Exterior	Concrete	Wall	Intact	Off-white	2.8	NEG	--	0.17	0.07
6	1	A	Exterior	Metal	Downspout	Intact	Off-white	2.8	NEG	--	0.05	0.12
7	1	A	Exterior	Wood	Door	Intact	Turquoise	2.7	NEG	--	0.19	0.13
8	1	A	Exterior	Wood	Door Casing	Intact	Off-white	1.0	NEG	--	0.00	0.02
9	1	A	Exterior	Wood	Window grate cover	Intact	Off-white	1.6	NEG	--	0.00	0.06
10	1	A	Exterior	Wood	Lower trim	Intact	Tan	1.8	NEG	--	0.21	0.09
11	1	A	Exterior	Wood	Upper trim	Fair	Tan	1.4	NEG	--	0.20	0.08
12	1	A	Exterior	Wood	Lower support beams	Intact	Tan	2.1	NEG	--	0.18	0.15
13	1	A	Exterior	Wood	Upper support	Intact	Tan	2.3	NEG	--	0.25	0.14
14	1	A	Exterior	Wood	Window casing	Fair	Tan	1.7	NEG	--	0.17	0.09
15	1	B	Exterior	Metal	Gate	Intact	Turquoise	2.1	NEG	--	0.24	0.09
16	1	B	Exterior	Concrete	Wall	Intact	Off-white	3.0	NEG	--	0.29	0.10
17	1	B	Exterior	Metal	Door	Intact	Turquoise	1.8	NEG	--	0.01	0.08
18	1	B	Exterior	Metal	Door	Intact	Turquoise	1.5	NEG	--	0.60	0.06
19	1	B	Exterior	Metal	Door	Intact	Turquoise	1.0	NEG	--	0.00	0.02
20	1	B	Exterior	Metal	Door	Intact	Turquoise	1.5	NEG	--	0.01	0.06
21	1	B	Exterior	Wood	Door casing	Intact	Off-white	1.9	NEG	--	0.16	0.07
22	1	B	Exterior	Wood	Door casing	Intact	Off-white	2.4	NEG	--	0.13	0.08
23	1	B	Exterior	Wood	Door casing	Intact	Off-white	2.1	NEG	--	0.13	0.09
24	1	B	Exterior	Wood	Door casing	Intact	Off-white	2.4	NEG	--	0.31	0.11
25	1	B	Exterior	Metal	Downspout	Intact	Off-white	2.9	NEG	--	0.12	0.16
26	1	B	Exterior	Wood	Lower trim	Fair	Tan	2.8	NEG	--	0.12	0.17
27	1	B	Exterior	Wood	Upper trim	Fair	Tan	2.0	NEG	--	0.32	0.12
28	1	B	Exterior	Wood	Window casing	Fair	Tan	1.0	NEG	--	0.00	0.04
29	1	B	Exterior	Wood	Upper support	Intact	Tan	2.7	NEG	--	0.16	0.13
30	1	B	Exterior	Wood	Lower support beams	Intact	Tan	2.0	NEG	--	0.13	0.13
31	1	A	Exterior	Wood	Window casing	Intact	Off-white	2.4	NEG	--	0.15	0.13
32	1	A	Exterior	Wood	Wall columns	Intact	Tan	1.4	NEG	--	0.21	0.11
33	1	A	Exterior	Wood	Door casing	Intact	Off-white	2.1	NEG	--	0.31	0.17
34	1	A	Exterior	Metal	Door	Intact	Turquoise	2.1	NEG	--	0.01	0.10
35	1	B	Exterior	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.01	0.08
36	1	C	Exterior	Concrete	Wall	Intact	Off-white	2.5	NEG	--	0.17	0.09

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Reading No.	Bldg	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Result (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm²)	Precision (+/- mg/cm²)
37	1	C	Exterior	Wood	Door casing	Intact	Off-white	1.3	NEG	--	0.09	0.08
38	1	C	Exterior	Concrete	Foundation	Poor	Off-white	1.9	NEG	--	0.16	0.09
39	1	C	Exterior	Metal	Door	Intact	Turquoise	1.6	NEG	--	0.01	0.19
40	1	D	Exterior	Metal	Door	Intact	Turquoise	5.5	NEG	--	0.30	0.30
41	1	D	Exterior	Metal	Door	Intact	Turquoise	1.4	NEG	--	0.07	0.10
42	1	D	Exterior	Metal	Door	Intact	Turquoise	2.1	NEG	--	0.13	0.09
43	1	D	Exterior	Metal	Door	Intact	Turquoise	2.9	NEG	--	0.20	0.15
44	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.2	NEG	--	0.13	0.14
45	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.1	NEG	--	0.11	0.11
46	1	D	Exterior	Wood	Door casing	Intact	Off-white	1.7	NEG	--	0.13	0.11
47	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.8	NEG	--	0.36	0.17
48	1	D	Exterior	Wood	Door casing	Intact	Off-white	2.0	NEG	--	0.18	0.10
49	1	D	Exterior	Concrete	Wall	Intact	Off-white	2.6	NEG	--	0.25	0.12
50	1	D	Exterior	Metal	Downspout	Intact	Off-white	1.2	NEG	--	0.08	0.06
51	1	C	Exterior	Metal	Ventilation grate	Intact	Off-white	3.4	NEG	--	0.31	0.19
52	1	D	Exterior	Metal	Ventilation grate	Intact	Off-white	3.1	NEG	--	0.10	0.15
53	1	D	Exterior	Wood	Window sill	Fair	Off-white	2.0	NEG	--	0.21	0.11
54	1	D	Exterior	Metal	Gate	Fair	Off-white	4.4	NEG	--	0.53	0.16
55	1	D	Exterior	Metal	Gate	Fair	Off-white	4.7	NEG	--	0.36	0.18
56	1	A	Recreation Room	Concrete	Wall	Intact	Off-white	1.7	NEG	--	0.11	0.07
57	1	A	Recreation Room	Wood	Baseboard	Intact	Natural	10.0	INCOM	--	0.06	0.12
58	1	A	Recreation Room	Wood	Wall molding	Intact	Natural	1.0	NEG	--	0.00	0.07
59	1	C	Recreation Room	Wood	Wall panel	Intact	Natural	1.0	NEG	--	0.00	0.04
60	1		Recreation Room	Wood	Floor	Intact	Natural	1.0	NEG	--	0.00	0.05
61	1	B	Recreation Room	Concrete	Wall	Intact	Off-white	2.1	NEG	--	0.14	0.09
62	1	D	Recreation Room	Concrete	Wall	Intact	Off-white	2.0	NEG	--	0.12	0.11
63	1	A	Recreation Room	Wood	Window trough	Intact	Off-white	2.0	NEG	--	0.27	0.10
64	1	A	Recreation Room	Wood	Window casing	Intact	Off-white	1.2	NEG	--	0.16	0.08

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Reading No.	Bldg	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm²)	Precision (+/- mg/cm²)
65	1	B	Recreation Room	Wood	Window casing	Intact	Off-white	2.3	POS		1.08	0.17
66	1	B	Recreation Room	Wood	Window casing	Intact	Off-white	1.8	NEG	--	0.35	0.14
67	1	B	Recreation Room	Wood	Window casing	Good	Off-white	1.8	POS	1 EA	0.73	0.11
68	1	B	Recreation Room	Wood	Window trough	Intact	Off-white	2.3	NEG	--	0.27	0.17
69	1	C	Recreation Room	Wood	Window casing	Intact	Off-white	1.6	NEG	--	0.30	0.14
70	1	C	Recreation Room	Wood	Window trough	Intact	Off-white	1.9	POS	1 EA	1.37	0.25
71	1	C	Recreation Room	Wood	Window casing	Intact	Off-white	1.7	POS	1 EA	0.92	0.15
72	1	C	Recreation Room	Wood	Window trough	Intact	Off-white	1.9	POS	1 EA	0.89	0.15
73	1	C	Recreation Room	Wood	Window casing	Intact	Off-white	1.4	NEG	--	0.16	0.09
74	1	C	Recreation Room	Wood	Window trough	Intact	Off-white	1.6	NEG	--	0.33	0.14
75	1	C	Recreation Room	Metal	Roof support beams	Intact	Tan	1.1	NEG	--	0.07	0.06
76	1	C	Recreation Room	Wood	Roof support beams	Intact	Tan	2.4	NEG	--	0.23	0.13
77	--	--	Shutter Calibration				--	0.0	--	--	--	--
78	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	0.0	POS	--	1.06	0.08
79	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.03	0.03
80	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.07	0.08
81	1	A	Hall	Tile	Wall	Intact	Tan	1.7	POS	20 SF	15.78	2.53
82	1	A	Hall	Metal	Door	Intact	Turquoise	1.9	NEG	--	0.10	0.09
83	1	A	Hall	Wood	Door casing	Intact	Off-white	1.8	NEG	--	0.15	0.11
84	1	B	Hall	Plaster	Wall	Intact	Off-white	2.7	NEG	--	0.42	0.14
85	1	B	Hall	Wood	Door	Intact	Turquoise	2.5	NEG	--	0.17	0.16
86	1	B	Hall	Wood	Door casing	Intact	Off-white	2.3	NEG	--	0.24	0.17
87	1	C	Hall	Plaster	Wall	Intact	Off-white	2.6	NEG	--	0.39	0.15
88	1	C	Hall	Wood	Door casing	Intact	Off-white	3.3	NEG	--	0.37	0.13
89	1	C	Hall	Wood	Door	Intact	Turquoise	2.5	NEG	--	0.10	0.15
90	1	D	Hall	Plaster	Wall	Intact	Off-white	3.6	NEG	--	0.45	0.16

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/Ea)	Lead Reading (mg/cm²)	Precision (+/- mg/cm²)
91	1	D	Hall	Wood	Door casing	Intact	Off-white	2.0	NEG	--	0.12	0.12
92	1	D	Hall	Wood	Door	Intact	Off-white	1.8	NEG	--	0.09	0.10
93	1		Hall	Plaster	Ceiling	Intact	Off-white	1.9	NEG	--	0.04	0.09
94	1	A	Kitchen	Plaster	Wall	Intact	Off-white	1.8	NEG	--	0.05	0.11
95	1	A	Kitchen	Wood	Upper cabinet door	Intact	Off-white	1.2	NEG	--	0.05	0.06
96	1	A	Kitchen	Wood	Lower cabinet door	Intact	Off-white	1.5	NEG	--	0.02	0.08
97	1	B	Kitchen	Plaster	Wall	Intact	Off-white	1.4	NEG	--	0.04	0.06
98	1	B	Kitchen	Wood	Window casing	Intact	Off-white	2.2	NEG	--	0.07	0.12
99	1	C	Kitchen	Plaster	Wall	Intact	Off-white	1.7	NEG	--	0.07	0.07
100	1	C	Kitchen	Wood	Cabinet door	Intact	Off-white	1.1	NEG	--	0.03	0.06
101	1	C	Kitchen	Tile	Baseboard	Intact	Green	1.7	POS	50 LF	18.07	1.93
102	1	D	Kitchen	Plaster	Wall	Intact	Off-white	2.0	NEG	--	0.07	0.07
103	1	D	Kitchen	Wood	Window trough	Intact	Off-white	1.8	POS	20 LF	0.95	0.14
104	1	D	Kitchen	Wood	Window trough	Intact	Off-white	2.0	POS	See Reading 103	1.08	0.21
105	1	D	Kitchen	Wood	Window casing	Intact	Off-white	1.1	NEG	--	0.13	0.07
106	1		Kitchen	Tile	Floor	Intact	Green	3.1	NEG	--	0.02	0.12
107	1		Kitchen	Plaster	Ceiling	Intact	Off-white	1.5	NEG	--	0.07	0.08
108	1		Porch	Tile	Floor	Intact	Green	5.7	NEG	--	0.04	0.11
109	1	C	Porch	Tile	Baseboard	Intact	Green	1.6	POS	15 LF	12.20	2.66
110	1	C	Porch	Concrete	Wall	Intact	Off-white	1.7	NEG	--	0.14	0.11
111	1	D	Porch	Concrete	Wall	Intact	Off-white	2.4	NEG	--	0.11	0.13
112	1	C	Janitor's closet	Concrete	Wall	Intact	Green	1.3	NEG	--	0.16	0.09
113	1	C	Janitor's closet	Other	Wall	Intact	Green	1.7	POS	30 SF	14.35	2.70
114	1	C	Janitor's closet	Wood	Wall shelf	Intact	Green	1.0	NEG	--	0.06	0.04
115	1	A	Boiler	Concrete	Wall	Intact	Green	1.2	NEG	--	0.14	0.06
116	1	B	Boiler	Concrete	Wall	Intact	Green	1.2	NEG	--	0.11	0.07
117	1	C	Boiler	Concrete	Wall	Intact	Green	1.3	NEG	--	0.16	0.07
118	1	D	Boiler	Concrete	Wall	Intact	Green	1.6	NEG	--	0.19	0.11
119	1		Boiler	Metal	Furnace	Intact	Green	1.0	NEG	--	0.02	0.01
120	1		Boiler	Metal	HVAC ducts	Intact	Green	1.5	NEG	--	0.07	0.09
121	1	A	Boiler	Metal	Pipes	Intact	Green	1.0	NEG	--	0.08	0.02
122	1	A	Class 1	Plaster	Wall	Intact	Off-white	1.2	NEG	--	0.05	0.05

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm²)	Precision (± mg/cm²)
123	1	C	Class 1	Plaster	Wall	Intact	Off-white	2.9	NEG	--	0.12	0.14
124	1	D	Class 1	Wood	Window trough	Intact	Off-white	2.3	NEG	--	0.24	0.13
125	1	D	Class 1	Wood	Window casing	Intact	Off-white	1.4	NEG	--	0.12	0.09
126	1	B	Class 1	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.00	0.08
127	1	B	Class 1	Wood	Window trough	Intact	Off-white	3.0	NEG	--	0.27	0.18
128	1	B	Class 1	Concrete	Wall	Intact	Off-white	3.6	NEG	--	0.19	0.19
129	1	A	Class 2	Concrete	Wall	Intact	Off-white	2.2	NEG	--	0.29	0.10
130	1	C	Class 2	Plaster	Wall	Intact	Off-white	2.3	NEG	--	0.35	0.14
131	1	C	Class 2	Wood	Upper cabinet door	Intact	Off-white	1.0	NEG	--	0.01	0.06
132	1	C	Class 2	Wood	Lower cabinet door	Intact	Off-white	1.0	NEG	--	0.04	0.05
133	1	C	Class 2	Wood	Upper cabinet wall	Intact	Off-white	1.1	NEG	--	0.04	0.06
134	1	C	Class 2	Wood	Lower cabinet wall	Intact	Off-white	1.5	NEG	--	0.03	0.08
135	1	B	Class 2	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.01	0.12
136	1	B	Class 2	Wood	Window trough	Intact	Off-white	1.5	NEG	--	0.27	0.12
137	1	B	Storage	Concrete	Wall	Intact	Tan	1.7	NEG	--	0.35	0.13
138	1	D	Storage	Plaster	Wall	Intact	Tan	1.3	NEG	--	0.40	0.13
139	1	D	Storage	Plaster	Wall	Intact	Off-white	1.0	NEG	--	0.05	0.05
140	2	D	Exterior	Concrete	Wall	Intact	Off-white	1.8	NEG	--	0.15	0.10
141	2	D	Exterior	Metal	Door	Intact	Yellow	2.0	NEG	--	0.08	0.10
142	2	D	Exterior	Wood	Door casing	Intact	Off-white	1.6	NEG	--	0.10	0.10
143	2	A	Storage	Concrete	Wall	Intact	Green	1.2	NEG	--	0.14	0.08
144	2	B	Storage	Wood	Window casing	Intact	Green	1.0	NEG	--	0.08	0.05
145	2	C	Storage	Wood	Shelves	Intact	Green	1.5	POS	50 SF	8.54	2.00
146	2	D	Storage	Wood	Wall hooks and bracket	Intact	Green	1.0	NEG	--	0.55	0.03
147	2	D	Storage	Concrete	Wall	Intact	Green	1.8	NEG	--	0.20	0.13
148	2	B	Exterior	Concrete	Wall	Intact	Off-white	1.6	NEG	--	0.09	0.07
149	2	B	Exterior	Wood	Window trough	Intact	Off-white	3.0	NEG	--	0.40	0.16
150	2	B	Exterior	Wood	Door	Intact	Turquoise	1.0	NEG	--	0.00	0.07
151	2	B	Exterior	Wood	Door casing	Intact	Off-white	2.4	NEG	--	0.12	0.15
152	2	B	Exterior	Metal	Downspout	Intact	Off-white	1.0	NEG	--	0.00	0.08
153	2	C	Exterior	Concrete	Wall	Intact	Off-white	2.8	NEG	--	0.09	0.12
154	2	C	Exterior	Concrete	Door casing	Intact	Off-white	5.4	NEG	--	0.24	0.21
155	2	D	Exterior	Concrete	Wall	Intact	Off-white	2.7	NEG	--	0.09	0.12
156	2	D	Exterior	Wood	Door casing	Intact	Off-white	1.3	NEG	--	0.07	0.07
157	2	D	Exterior	Wood	Door	Intact	Turquoise	1.9	NEG	--	0.09	0.09
158	2	A	Office	Plaster	Wall	Intact	Off-white	1.7	NEG	--	0.01	0.11
159	2	B	Office	Wood	Cabinet door	Intact	Off-white	2.0	NEG	--	0.01	0.12

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Results (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm²)	Precision (+/- mg/cm²)
160	2	B	Office	Wood	Cabinet wall	Intact	Off-white	1.6	NEG	--	0.03	0.09
161	2	B	Office	Wood	Window trough	Intact	Off-white	2.6	NEG	--	0.13	0.16
162	2	B	Office	Wood	Window casing	Intact	Off-white	1.0	NEG	--	0.00	0.05
163	2	A	Office	Metal	Radiator	Intact	Off-white	1.0	NEG	--	0.01	0.03
164	2	C	Janitor's closet	Plaster	Wall	Intact	Green	1.2	NEG	--	0.07	0.06

Table 2 - XRF Data Sheet

Reading No.	Bldg.	Side	Room/Unit	Substrate	Component	Condition	Color	Depth Index	Result (Pos/Neg)	Approximate Quantity (SF/LF/EA)	Lead Reading (mg/cm²)	Precision (+/- mg/cm²)
165	2	A	Janitor's closet	Other	Wall	Intact	Green	1.7	POS	50 SF	13.58	2.78
166	2	A	Women's Restroom	Other	Wall	Intact	Tan	1.6	POS	250 SF	14.44	2.83
167	2	B	Women's Restroom	Plaster	Wall	Intact	Turquoise	2.2	NEG	--	0.11	0.12
168	2	B	Women's Restroom	Wood	Window casing	Intact	Tan	1.6	NEG	--	0.07	0.09
169	2	D	Women's Restroom	Wood	Door casing	Intact	Tan	1.9	NEG	--	0.18	0.11
170	2	C	Women's Restroom	Wood	Door	Intact	Tan	3.5	NEG	--	0.15	0.15
171	2		Women's Restroom	Tile	Floor	Intact	Brown	1.2	NEG	--	0.01	0.07
172	2	D	Women's Restroom	Tile	Baseboard	Intact	Tan	1.7	POS	50 LF	13.24	2.85
173	2		Men's Restroom	Tile	Floor	Intact	Green	1.0	NEG	--	0.00	0.01
174	2	A	Men's Restroom	Tile	Wall	Intact	Green	1.6	POS	300 SF	15.92	2.89
175	2	B	Men's Restroom	Plaster	Wall	Intact	Tan	7.4	NEG	--	0.13	0.21
176	2	B	Men's Restroom	Wood	Window w	Intact	Tan	3.3	NEG	--	0.27	0.2
177	2	B	Men's Restroom	Wood	Stall door	Intact	Tan	2.1	NEG	--	0.05	0.1
178	2	B	Men's Restroom	Wood	Stall wall	Intact	Tan	3.2	NEG	--	0.11	0.17
179	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.08	0.08
180	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.05	0.05
181	--	--	Standard Calibration 1.06 +/- 0.06 mg/cm²				--	1.0	POS	--	1.05	0.08

Notes
POS = Positive
NEG = Negative
SF = Square feet
LF = Linear feet
EA = Each
mg/cm² = milligrams per square centimeter

STATE OF CALIFORNIA—HEALTH AND HUMAN SERVICES AGENCY

DEPARTMENT OF HEALTH SERVICES

CHILDHOOD LEAD POISONING PREVENTION BRANCH

1515 CLAY STREET, SUITE 1801
OAKLAND, CA 94612
(510) 622-5000

GRAY DAVIS, *Governor*

August 8, 2000

Mr. Robert C. Clark
Barr & Clark
22850 Crenshaw Boulevard, # 200
Torrance, California 90505

Dear Mr. Clark:

Your California Department of Health Services (DHS) Lead Certificate(s) has been renewed. **Please note that your expiration date(s) changed. From this point forward it will be your date of birth.**

Type of Certificate	Certificate ID #	Expiration Date
Inspector/Assessor	I-8	01/03/2002
Project Designer	D-8	01/03/2002

> SEE BELOW

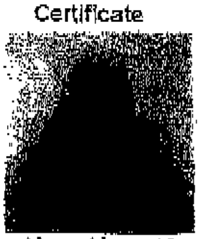
The enclosed certificate card/sticker serves as your proof of *full* certification renewal by the Department. (If you received a sticker, please place it on the front left side of your certificate ID card, over your name and the old certificate information. Do not cover your photo with the sticker.) Please note that alteration of any information or fraudulent use of your card/sticker my result in revocation of your certificate. If your card is lost, stolen or inaccurate please notify DHS immediately. **Do not** cut up or destroy your card when your certificate expires.

To ensure that your certificate is renewed before it expires, please submit your next renewal application to the Department at least 120 days before the expiration data(s) above. Call the Lead Related Construction Information Line at 1-800-597-5323 for renewal forms and instructions. (From outside California, call (510) 622-5072.)

If you change your home or mailing address, please notify the Department within 30 days by calling 1-800-597-5323 or by writing to us at 1515 Clay Street, Suite 1801, Box C, in Oakland, California, 94612. If you fail to notify us of changes in your address, we will be unable to send your certification materials in the future. Thank you for your cooperation and continued efforts in helping to prevent childhood lead poisoning.

State of California Department of Health Services

Lead-Related Construction Certificate	Certificate Type	Expiration Date
	Inspector/Assessor	01/03/2004
	Project Designer	01/03/2004



Robert Clark I-# 8

Sincerely,

Rebecca Sotwell, for

Larrie L. Lance, Dr.P.H., R.E.A., Chief
Lead Hazard Reduction Section
Childhood Lead Poisoning Prevention Branch

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY) 09/11/2003

PRODUCER Serial # A12792

LEGENDS ENVIRONMENTAL INS.SVCS,LLC
1305 GENE AUTRY WAY
ANAHEIM, CA 92805
LICENSE #0C79875
(714) 634-2683 (714) 634-3704

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

COMPANIES AFFORDING COVERAGE

COMPANY A	GULF UNDERWRITERS INSURANCE COMPANY
COMPANY B	
COMPANY C	
COMPANY D	

INSURED

BARR & CLARK, INC.
22850 CRENSHAW BLVD. #200
TORRANCE, CA 90505

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED, NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY [ ] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR [ ] OWNER'S & CONTRACTOR'S PROT [X] CONTRACTORS POLL	GU2837204	03/09/02	03/09/04	GENERAL AGGREGATE	$ 2,000,000
					PRODUCTS - COMP/OP AGG	$ 1,000,000
					PERSONAL & ADV INJURY	$ 1,000,000
					EACH OCCURRENCE	$ 1,000,000
					FIRE DAMAGE (Any one fire)	$ 50,000
					MED EXP (Any one person)	$ 5,000
A	AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [X] HIRED AUTOS [X] NON-OWNED AUTOS	GU2837204	03/09/02	3/09/04	COMBINED SINGLE LIMIT	$ 1,000,000
					BODILY INJURY (Per person)	$
					BODILY INJURY (Per accident)	$
					PROPERTY DAMAGE	$
	GARAGE LIABILITY [ ] ANY AUTO				AUTO ONLY - EA ACCIDENT	$
					OTHER THAN AUTO ONLY: EACH ACCIDENT	$
					AGGREGATE	$
	EXCESS LIABILITY [ ] UMBRELLA FORM [ ] OTHER THAN UMBRELLA FORM				EACH OCCURRENCE	$
					AGGREGATE	$
						$
	WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY THE PROPRIETOR/ PARTNERS/EXECUTIVE OFFICERS ARE: [ ] INCL [ ] EXCL				WC STATUTORY LIMITS / OTHER	
					EL EACH ACCIDENT	$
					EL DISEASE - POLICY LIMIT	$
					EL DISEASE - EA EMPLOYEE	$
A	OTHER PROFESSIONAL LIABILITY CLAIMS MAKE	GU2837204	03/09/02	03/09/04	INCLUDED IN GL LIMITS ABOVE CLAIMS MADE	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/SPECIAL ITEMS

CERTIFICATE HOLDER

INFORMATION AND BIDDING PURPOSES ONLY

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE OF INDEPENDENT INSURANCE AGENCY

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Appendix G

Traffic Analysis

Traffic Analysis for
the Loma Alta County Park
Gymnasium and General Improvement Project

Altadena, California

May 7, 2004

Prepared For:
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Los Angeles, California 90010
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Prepared by:
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Job Number JA3162

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1. Introduction

Purpose

Katz, Okitsu & Associates has prepared this report to document the traffic impacts anticipated by the proposed improvements to Loma Alta County Park. The Park is approximately 16.5 acres and consists of two parcels of land, which lie north and south of Loma Alta Drive at Lincoln Avenue. It is located in the foothills of the San Gabriel Mountains south of Angeles National Forest and is surrounded by residential development. The park is bounded on the west by Lincoln Boulevard, the south by Palm Street and the east by Dabney Street and Sunset Ridge Road. Sunset Ridge Road was constructed by Brookfield Homes, the developer of the "La Vina" residential development occurring north and east of the park. The Foothill Freeway (I-210) is approximately 2 miles south of the park.

Figure 1 shows the project location.

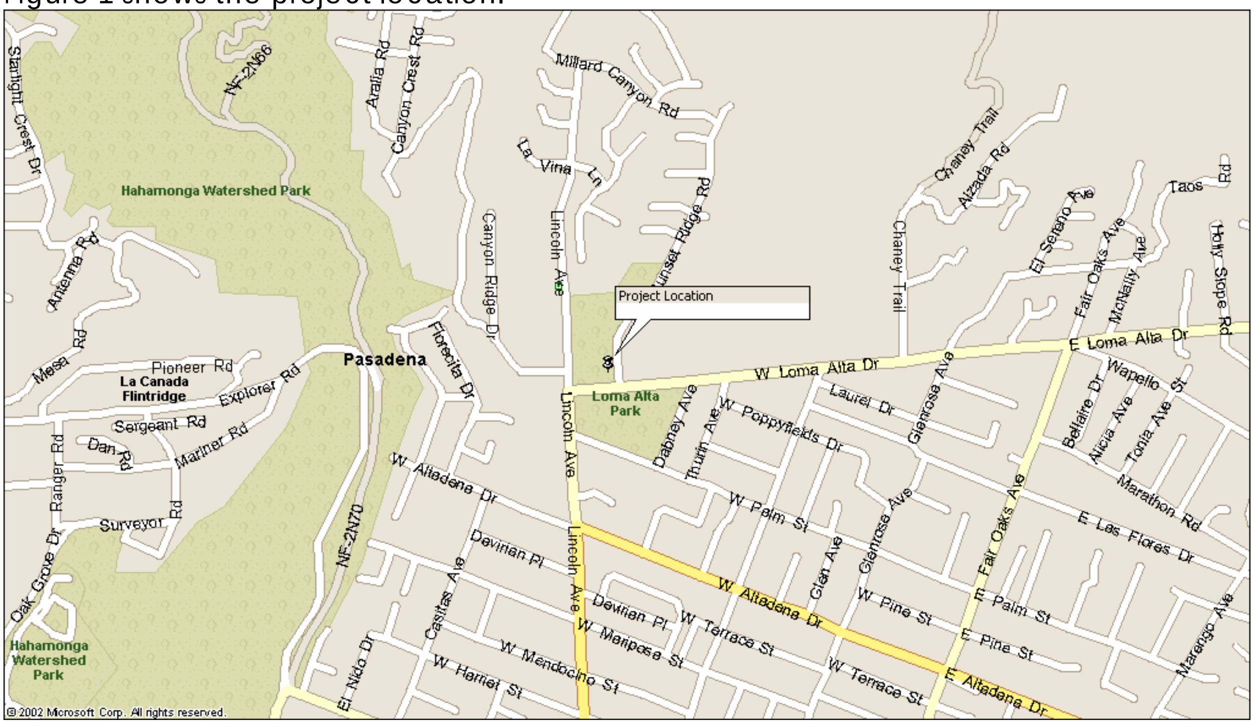


FIGURE 1 – PROJECT LOCATION

Physical Characteristics of the Park

The existing park was developed in various stages with the two primary developments being the north parcel with 7.3 acres and the south parcel of 9.2 acres. Facilities on site include a swimming pool and bath house, recreation activity building, children's play apparatus, lighted multipurpose athletic fields, lighted tennis courts, basketball courts, equestrian riding ring, community gardens, picnic areas, restrooms and parking. The primary users of the park are residents in the greater Altadena and north NW Pasadena areas.

Project Description

The proposed project will include the construction of a new gymnasium and community center facility in the northern portion of the park. It will include the demolition of the existing asphalt basketball courts and light standards and other site preparation (as required) for the construction of the gymnasium and community center facility and associated parking. As part of the new gymnasium and community center facility, lighted walkways connecting the site with adjacent parking facilities will be installed.

Photograph 1 - Looking at the basketball courts north of Loma Alta Drive

Photograph 1 shows the existing basketball courts in the northern portion of the park west of Sunset Ridge Road.

The proposed gymnasium and community center facility will be approximately 13,500 square feet.

It is understood that the gymnasium will provide seating for approximately 100 spectators and that the community room would provide for events with a maximum of 40 people.

Analysis Scope

The intersections studied are listed below. These intersections were selected in consultation with the County of Los Angeles. They were analyzed for the weekday PM peak hour:

1. Loma Alta Drive/Lincoln Avenue
2. Loma Alta Drive/Sunset Ridge Road

The analysis was performed using the *2000 Highway Capacity Manual* methodologies discussed in Appendix A. The TRAFFIX computer model was used in the analysis.

2. Existing (Year 2004) Conditions

Area Roadway Characteristics

The roadways in the project vicinity are described below.

Foothill Freeway (I-210) is about two miles to the south. It provides regional access to the site via an interchange at Lincoln Avenue.

Lincoln Avenue forms the western border of the park. It provides primary access to the northern portion of the park as access to the parking lot is via two driveways located on Lincoln Avenue. Adjacent to the park, Lincoln Avenue is approximately 35 feet in width. North of Loma Alta Drive, the east curb of Lincoln Avenue has been painted red. The length of red curb runs generally along the length of the baseball facility. The remaining curbside is available for parking. The land uses adjacent to Lincoln Avenue north of Altadena Drive are single family residential. North of the park, Lincoln Avenue serves as an entrance to La Vina gated residential community. The speed limit is generally 30 MPH with a 25MPH speed limit posted adjacent to the project site.

The residential roadway Canyon Crest Drive is located west of the two parking lot driveways serving the park off Lincoln Avenue but north of Loma Alta Drive. The driveways and Canyon Crest Drive intersections on Lincoln Avenue are controlled by stop signs on the driveways and Canyon Crest Drive only. The intersection of Lincoln Avenue with Loma Alta Drive, which splits the northern and southern portions of the park, is controlled by stop signs in all directions.

Photographs 2, 3, 4 and 5 show portions of Lincoln Avenue and Canyon Crest Drive in the project vicinity.

Photograph 2 - Looking north along the east side of Lincoln Avenue from south of the north parking lot driveway

Photograph 3 - Looking south along the east side of Lincoln Avenue from the north parking lot southern driveway

Photograph 4 - Looking west along Canyon Crest Road from west of Lincoln Avenue

Photograph 5 - Looking east along Canyon Crest Road toward Lincoln Avenue

Loma Alta Drive splits the northern and southern portions of the park and provides secondary access to the park. It is a two-lane collector street with a 39-foot street width. The speed limit is 30 mph. On the south side of the street, the adjacent land uses are single family residential. On-street parking is permitted on Loma Alta Drive. The intersection of Loma Alta Drive with Sunset Ridge Road is controlled with a stop sign on Sunset Ridge Road.

Photographs 6, 7, 8 and 9 were taken along Loma Alta Drive.

Photograph 6 - Looking east along Loma Alta Drive from east of Lincoln Avenue

Photograph 7 - Looking west along Loma Alta Drive toward Lincoln Avenue

Photograph 8 - Looking south along the west side of Lincoln Avenue toward Loma Alta Drive

Photograph 9 - Looking northeast from the southwest corner of the Loma Alta Drive/Sunset Ridge Road

Palm Street is a two-lane local street. The speed limit is 30 mph and on-street parking is permitted. The adjacent land uses are single family residential. It forms the southern border of the southern portion of the park. Altadena Community Gardens is located on the northeast corner of the Lincoln Avenue/Palm Street intersection. On-street parking is provided on both sides of the street.

Photograph 10 shows the view looking west along Palm Street toward Lincoln Avenue.

Photograph 10 - Looking south along the west side of Lincoln Avenue toward Loma Alta

Sunset Ridge Road is a new two-lane local street that serves as the eastern border of the northern portion of the park. The road provides access to a new single-family subdivision, La Vina, which is north of the park. It would also provide primary access to the new gymnasium and community center facility and new parking lots. On the west side of the Sunset Ridge Road (in the park) there is an equestrian trail which connects an equestrian activity center in the southern portion of the park with trails to the north. The roadway is approximately 38 feet in width and undeveloped along its frontage.

Photographs 11 and 12 show portions of Sunset Ridge Road.

Photograph 11 - Looking north along Sunset Ridge Road from the south side of Loma Alta Drive

Photograph 12 - Looking north along the west side of Sunset Ridge Road from further north of Loma Alta Drive

Altadena Drive is a two-lane local street located south of the project site. The speed limit is 30 mph and on-street parking is permitted. The adjacent land uses are single family residential.

Dabney Street is a two-lane local street. The speed limit is 30 mph and on-street parking is permitted. The adjacent land uses are single family residential. It forms the eastern border of the southern portion of the park.

Figure 2 shows the roadway geometries at the two intersections adjacent to the park that were selected for a weekday PM peak hour analysis.

Analysis of Existing Conditions

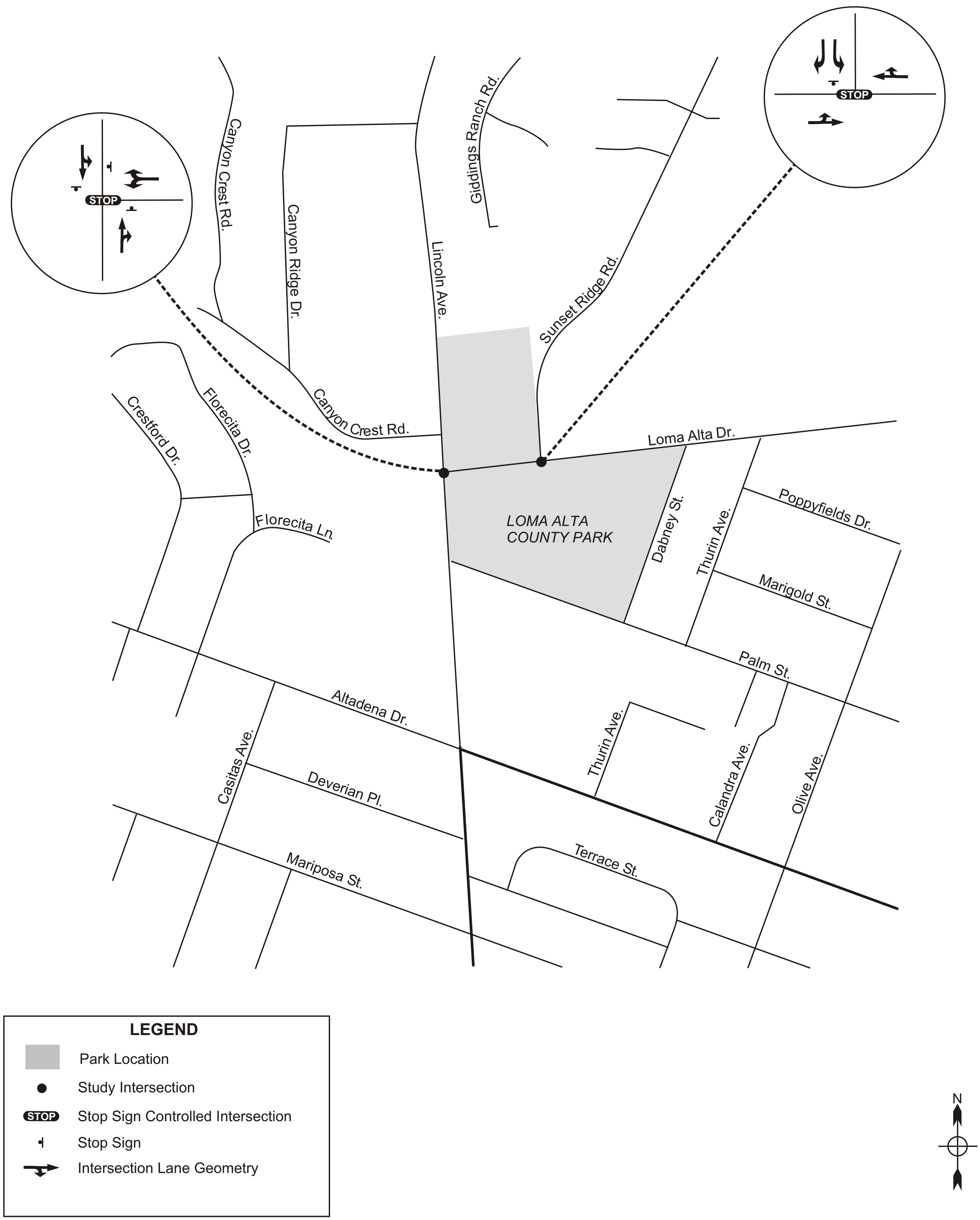
The proposed park improvements will be constructed within the existing northern portion of the park facility. Therefore, the proposed project will not result in the elimination of trips from any existing land uses. Projects are generally assessed to determine if they will result in an increase in local and regional traffic volumes. Peak travel periods, traditionally the AM (7-9 AM) and PM (4-6 PM) weekday commuting periods, are studied to determine whether area roadways can accommodate the additional traffic. Based on the low number (if any) of programs at the proposed facility prior to 9 AM on the weekdays, the trip generation of the park during the AM peak hour of the adjacent roadway would be minimal and will not be analyzed further.

Appendix A contains the methodologies used for the following analysis and an explanation of Level of Service (LOS). Appendix B contains the weekday PM peak hour counts that were performed between 4PM and 6PM at the study intersections. Figure 3 shows the peak hour turning movement volumes. Table 1 shows the results of the analysis of existing conditions.

Table 1 - Existing (Year 2004) Conditions Analysis Summary

Intersection	Weekday PM Peak Hour
	Avg. Delay - LOS
Loma Alta Drive/Lincoln Avenue	9.2 sec. – A
Loma Alta Drive/Sunset Ridge Road	2.7 sec. - A

As shown on Table 1, the study intersections currently operate with little or no delay (LOS A) during the weekday PM peak hour. The level of service calculations are provided in Appendix C.

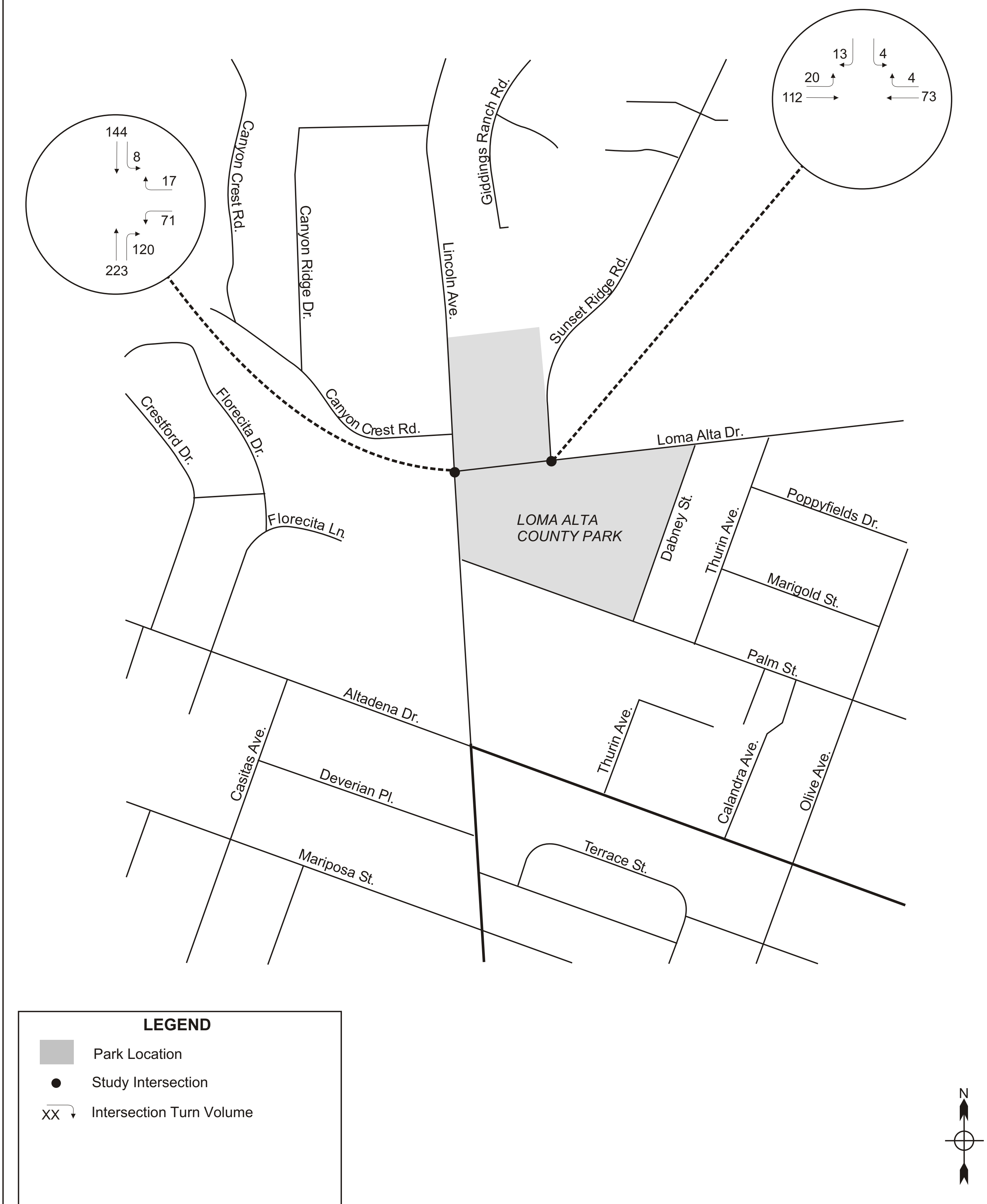


Katz, Okitsu & Associates
Traffic Engineers and Transportation Planners

Loma Alta County Park - Traffic Study

Figure 2

Intersection Geometry and Control



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Loma Alta County Park - Traffic Study

Figure 3

Existing (Year 2004) PM Peak Hour Traffic Volumes

3. Project Trip Generation Forecast

Additional trips will be generated by the proposed new gymnasium and community center facility uses. During the weekday PM peak hour, the park is expected to generate more use and hence a higher level of activity. Trip generation is dependent upon the planned use and schedule of activities at the gymnasium and community center facility.

In consultation with County Parks and Recreation staff, a typical scenario for program attendance was developed to determine the maximum number of trips that could be generated by the gymnasium and community center facility. The scenario includes the following assumptions:

- An organized sporting event occurs with 20 participants
- All 100 bleacher seats are fully occupied.
- 40 people are using the community center
- All participants are either arriving or departing during the same hour.
- All vehicles have an average occupancy of 1.5 occupants per vehicle.

The trip generation for this scenario is summarized in Table 2 below:

Table 2 - Typical Case Trip Generation Scenario

Trip Generator	Participants (1.5 occupants/vehicle)	Trip Generation IN or OUT
Sport Participants	20 players	14
Spectators	100 spectators	66
Community Center Users	40 people	27
TOTAL	--	**107**

For purposes of providing a typical case analysis, it is assumed that these trips will occur during the weekday PM peak hour.

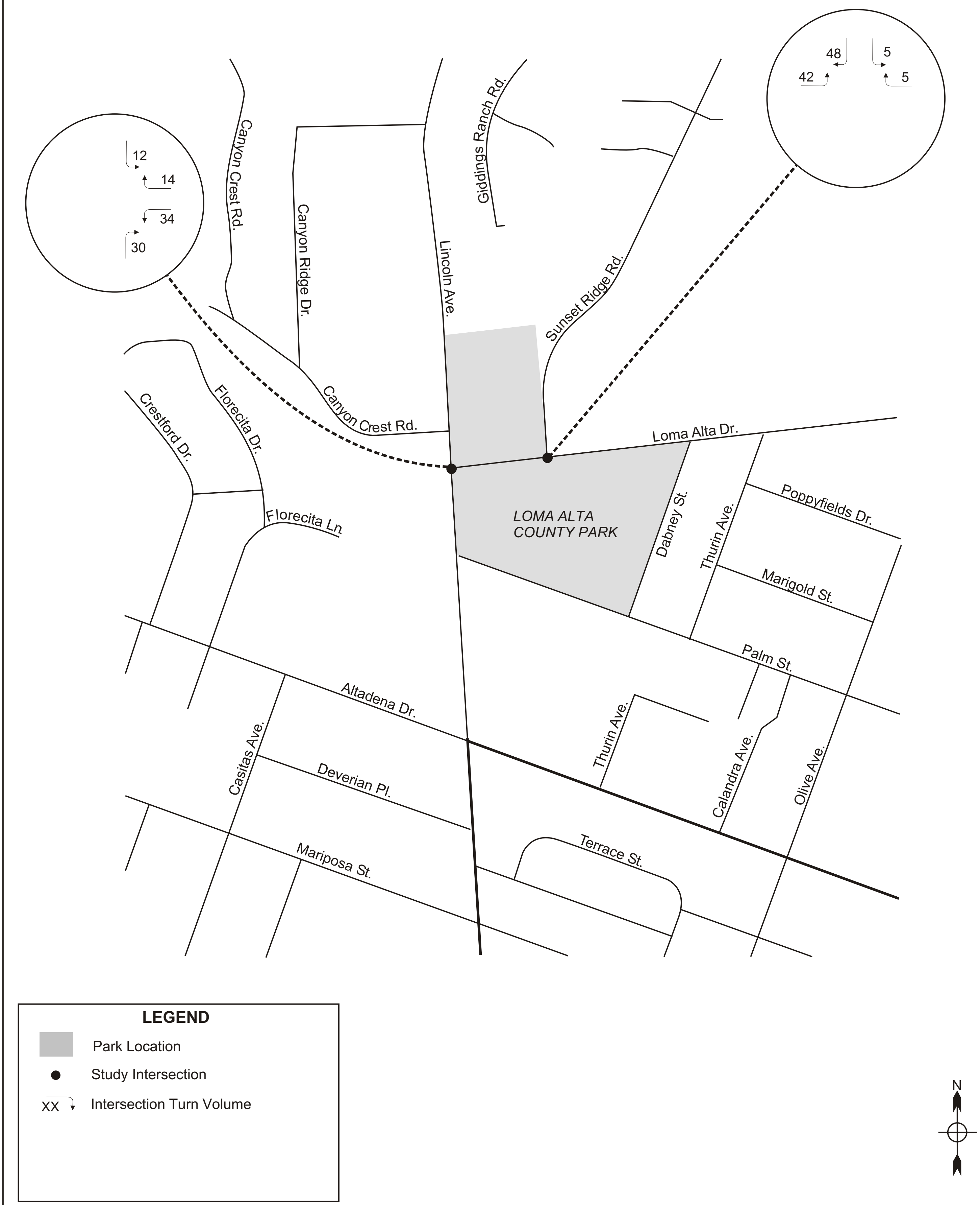
Project Trip Distribution Forecast

The *Institute of Transportation Engineers Trip Generation Manual, 7th Edition* data shows that a recreational community center (Land Use 495) has 38% entering trips and 62% exiting trips during the weekday PM peak hour. These rates were used in the analysis. It was assumed that all trips attributed to the project would have the parking lots located along Sunset Ridge Road as the preferred point of origin and/or destination.

Directional trip distribution of the 107 trips listed in Table 2 was based on observed volumes during the weekday PM peak hour period at the study intersections. The directional trip distribution used in the analysis is as follows:

Lincoln Avenue to the north – 24%
Lincoln Avenue to the south – 60%
Loma Alta Drive to the east – 13%
Sunset Ridge Road to the north – 3%

Figure 4 shows the forecast project trips.



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Loma Alta County Park - Traffic Study

Figure 4

Forecast PM Peak Hour Project Volumes

4. Project Impact Analysis

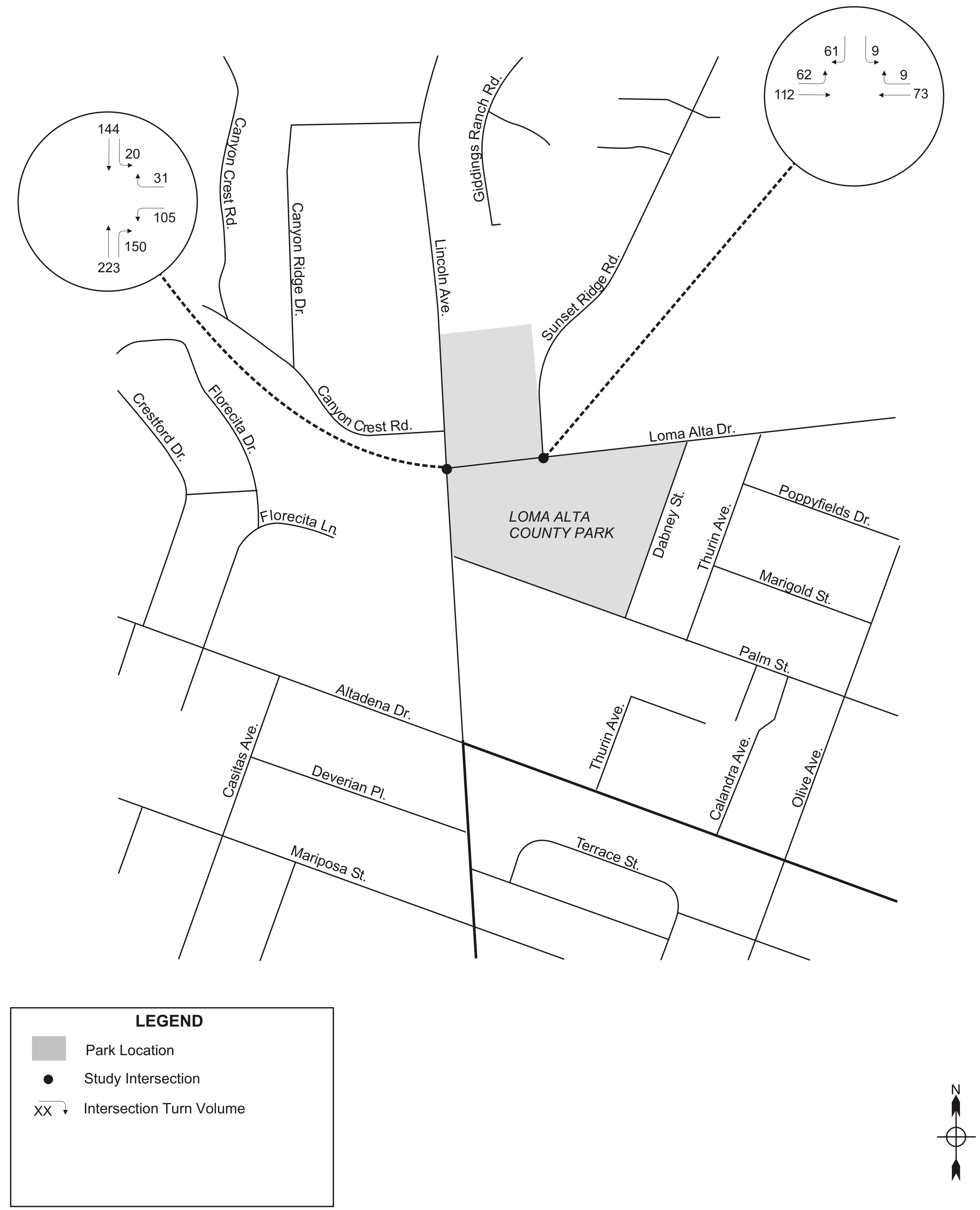
Figure 5 shows the weekday PM peak hour intersection volumes with the addition of forecast project traffic. Table 3 shows the results of level of service calculations with the addition of project traffic.

Table 3 – "With Project" Conditions Analysis Summary

Intersection	Weekday PM Peak Hour Avg. Delay - LOS
Loma Alta Drive/Lincoln Avenue	9.8 sec. – A
Loma Alta Drive/Sunset Ridge Road	3.8 sec. - A

As shown on Table 3, the study intersections will operate with little or no delay (LOS A) during the weekday PM peak hour with the addition of project traffic. The level of service calculations are provided in Appendix D.

Ambient traffic volumes on local roadways during the weekend are traditionally lower than weekday volumes. The same scenario (i.e., the proposed project would generate the same number of trips) is assumed to take place during the weekend hours, most likely during the morning or afternoon. However, the traffic impacts associated with the proposed project during the weekend hours would be less than those experienced during weekdays, due to the reduced ambient traffic volumes on local roadways.



Katz, Okitsu & Associates
Traffic Engineers and Transportation Planners

Loma Alta County Park - Traffic Study

Figure 5

"With Project" PM Peak Hour Traffic Volumes

5. Construction Traffic Analysis

Construction activities would contribute a maximum of 100 average daily trips to and from the construction areas to accommodate worker commutes and deliveries. This corresponds to a maximum of 40 construction workers commuting to and from the site and 10 trucks delivering construction materials to and hauling excavated/demolished material from the project site each day. Therefore, a maximum of 50 weekday PM peak hour trips (less than one trip per minute) would actually occur on local roadways as a result of project construction. These trips would be considered temporary and smaller in scale than the daily traffic anticipated during project operation.

6. Conclusions

Traffic flows on the adjacent roadways are light based on the existing LOS and traffic volume counts taken as part of this analysis. It is estimated that the number of vehicle trips that would be generated during operation of the proposed gymnasium and community center facility would be, at most, 107 vehicles during the evening or weekend peak hour. The added trips would not have a significant impact on the surrounding street system.

In terms of construction traffic, the proposed project would result in a short-term increase in traffic trips during the proposed construction period, and would not significantly alter the existing traffic loads or traffic patterns of area roadways. To further minimize construction-related traffic impacts, the off-site movement of large construction equipment and construction materials hauling should occur outside of the weekday peak traffic hours of 7:00 to 9:00 AM and 4:00 to 6:00 PM, Monday through Friday.

The wo study intersections (Loma Alta Drive/Lincoln Avenue and Loma Alta Drie/Sunset Ridge Road) would continue to operate with little or no delay (LOS A) with the additional traffic generated by construction and operation of the proposed project. No mitigation measures are required.

APPENDIX A
Analysis Methodologies

TRAFFIC LEVELS OF SERVICE (LOS)

Analysis of traffic volumes is useful in understanding the general nature of traffic in an area, but by itself indicates neither the ability of the street network to carry additional traffic nor the quality of service afforded by the street facilities. For this, the concept of *level of service* has been developed to subjectively describe traffic performance and was used to assess the significance of traffic impacts associated with the proposed project. Level of service can be measured at intersections and along key roadway segments.

Level-of-service categories are similar to report card ratings for traffic performance. Intersections are typically controlling bottlenecks of traffic flow and the ability of a roadway system to carry traffic efficiently is generally diminished in their vicinities. Levels of Service A, B and C indicate conditions where traffic moves without significant delays over periods of peak travel demand. Level of Service D and E are progressively worse peak hour operating conditions and Level of Service F conditions represent where demand exceeds the capacity of an intersection. Most urban communities in the United States set Level of Service D as the minimum acceptable level of service for peak hour operations and plan for level of service C or better for all times of the day. Communities in Southern California where traffic congestion is common sometimes set Level of Service E as the threshold of the minimum acceptable level of service. The *Highway Capacity Manual* provides level of service calculation methodology for both intersections and arterials.[1]

The following sections provide interpretations of the analysis approaches.

ALL-WAY STOP CONTROLLED INTERSECTIONS (Lincoln Ave/Loma Alta Drive Intersection)

Unsignalized intersections and all-way stop controlled intersections are each subject to separate capacity analysis methodology. All-way stop controlled intersection operations are reported by leg of the intersection.

This method calculates a delay value for each approach to the intersection. The 2000 Highway Capacity Manual describes the detailed methodology. The following table describes the amount of delay associated with each level of service.

Delay (seconds)	Level of Service
0-10	A
10-15	B
15-25	C
25-35	D
35-50	E
>50	F

Source: *2000 Highway Capacity Manual*, Transportation Research Board, Washington, D.C.

[1] 2000 Highway Capacity Manual, Transportation Research Board, Washington, D.C., 2000, Chapters 16 and 17.

UNSIGNALIZED INTERSECTIONS (Two-way Stop Controlled – Loma Alta Drive/Sunset Ridge Road Intersection)

Unsignalized intersection level of service is reported for the major street and minor street (generally, left-turn movements). The method assesses available and critical gaps in the traffic stream, which make it possible for side street traffic to enter the main street flow. The *2000 Highway Capacity Manual* describes the detailed methodology. It is not unusual for an intersection to experience Level of Service E or F conditions for the minor street left-turn movements. It should be understood that, often, a poor level of service is experienced by only a few vehicles and that the intersection as a whole operates acceptably.

Unsignalized levels of service are described in the following table.

Level of Service	**Expected Delay**	**(Seconds/Vehicle)**
A	Little or no delay.	0-10.0
B	Short traffic delay.	>10.1 – 15.0
C	Average traffic delays.	>15.1 – 25.0
D	Long traffic delays.	>25.1 – 35.0
E	Very long traffic delays.	>35.1 – 50.0
F	Extreme delays potentially affecting other traffic movements in the intersection.	>50

Source: *2000 Highway Capacity Manual*, Transportation Research Board, Washington, D.C.

APPENDIX B
Existing Traffic Counts – April 2004

WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

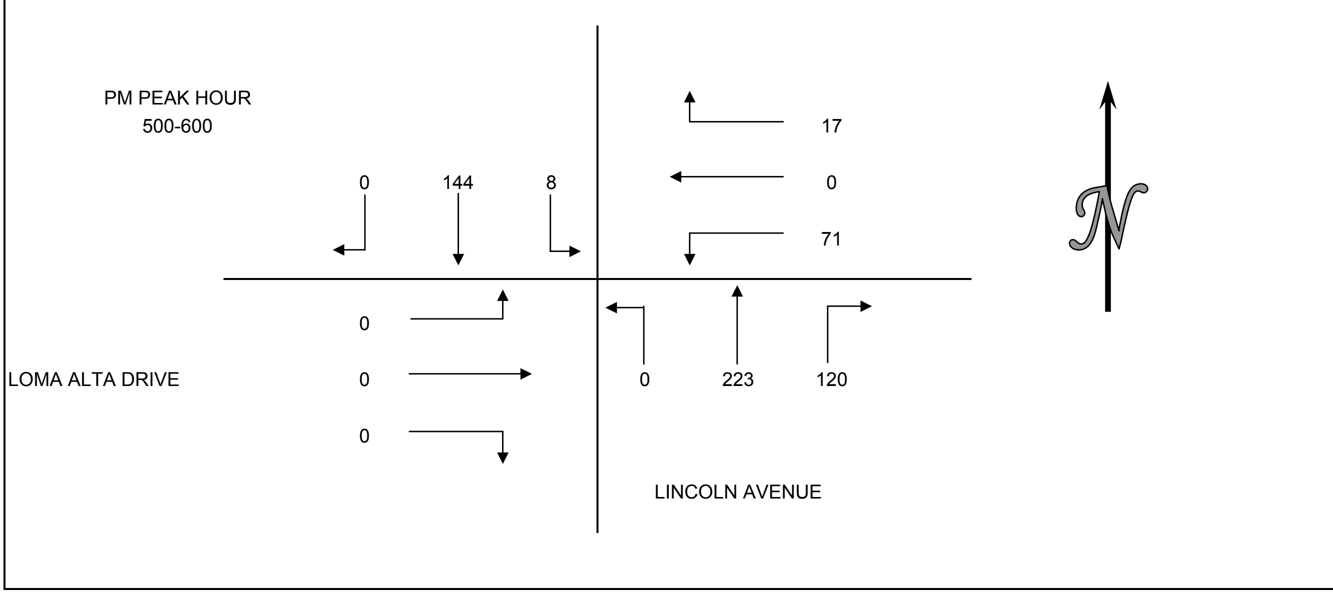
CLIENT:		KATZ, OKITSU & ASSOCIATES
PROJECT:		PASADENA TRAFFIC COUNTS
DATE:		WEDNESDAY, APRIL 29TH, 2004
PERIOD:		4:00 PM TO 6:00 PM
INTERSECTION:	N/S	LINCOLN AVENUE
	E/W	LOMA ALTA DRIVE

15 MIN COUNTS

	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
400-415	0	21	2	3	0	12	21	30	0	0	0	0	89
415-430	0	25	4	4	0	15	25	47	0	0	0	0	120
430-445	0	23	2	4	0	12	18	34	0	0	0	0	93
445-500	0	30	2	2	0	12	24	58	0	0	0	0	128
500-515	0	41	2	4	0	10	28	49	0	0	0	0	134
515-530	0	25	2	2	0	20	33	68	0	0	0	0	150
530-545	0	31	2	4	0	18	29	44	0	0	0	0	128
545-600	0	47	2	7	0	23	30	62	0	0	0	0	171

HOUR TOTALS

	1	2	3	4	5	6	7	8	9	10	11	12	
PERIOD	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTAL
400-500	0	99	10	13	0	51	88	169	0	0	0	0	430
415-515	0	119	10	14	0	49	95	188	0	0	0	0	475
430-530	0	119	8	12	0	54	103	209	0	0	0	0	505
445-545	0	127	8	12	0	60	114	219	0	0	0	0	540
500-600	0	144	8	17	0	71	120	223	0	0	0	0	583



WILTEC

Phone: (626) 564-1944 Fax: (626) 564-0969

INTERSECTION TURNING MOVEMENT COUNT SUMMARY

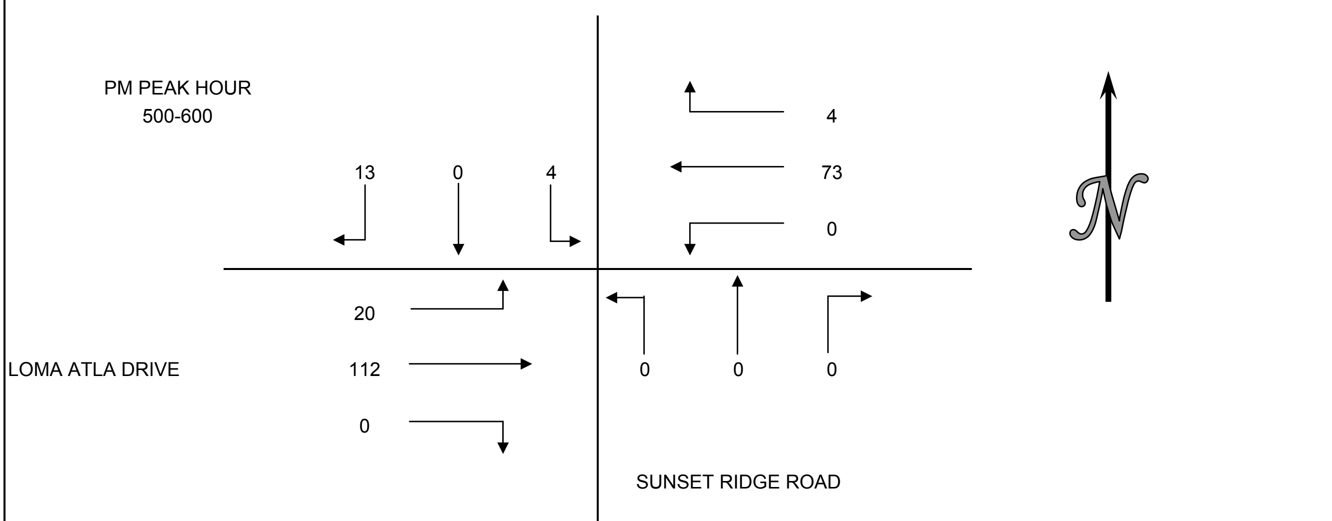
CLIENT:		KATZ, OKITSU & ASSOCIATES
PROJECT:		PASADENA TRAFFIC COUNTS
DATE:		WEDNESDAY, APRIL 29TH, 2004
PERIOD:		4:00 PM TO 6:00 PM
INTERSECTION:	N/S	SUNSET RIDGE ROAD
	E/W	LOMA ATLA DRIVE

15 MIN COUNTS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-415	3	0	2	1	14	0	0	0	0	0	22	4	46
415-430	2	0	1	1	15	0	0	0	0	0	20	6	45
430-445	2	0	2	2	15	0	0	0	0	0	19	4	44
445-500	2	0	0	3	11	0	0	0	0	0	19	4	39
500-515	2	0	0	0	12	0	0	0	0	0	27	6	47
515-530	2	0	2	3	18	0	0	0	0	0	28	5	58
530-545	6	0	1	0	18	0	0	0	0	0	27	6	58
545-600	3	0	1	1	25	0	0	0	0	0	30	3	63

HOUR TOTALS

PERIOD	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTAL
400-500	9	0	5	7	55	0	0	0	0	0	80	18	174
415-515	8	0	3	6	53	0	0	0	0	0	85	20	175
430-530	8	0	4	8	56	0	0	0	0	0	93	19	188
445-545	12	0	3	6	59	0	0	0	0	0	101	21	202
500-600	13	0	4	4	73	0	0	0	0	0	112	20	226



APPENDIX C
Intersection Level-of-Service Worksheets
Existing Conditions – PM Peak Hours

Scenario Report

Scenario:	PM Existing
Command:	PM Existing
Volume:	PM Existing
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Project
Trip Distribution:	Project
Paths:	Default Paths
Routes:	Default Routes
Configuration:	PM Existing

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Loma Alta Dr/Lincoln Ave	A	9.2	0.394	A	9.8	0.444	+ 0.050 V/C
# 2 Loma Alta Dr/Sunset Ridge Rd	A	2.7	0.000	A	3.8	0.000	+ 0.000 V/C

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Base Volume Alternative)
********************************************************************************
Intersection #1 Loma Alta Dr/Lincoln Ave
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap. (X):        0.394
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):        9.2
Optimal Cycle:        0               Level Of Service:                  A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0   223   120    8   144     0    0     0     0   71     0    17
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   0   223   120    8   144     0    0     0     0   71     0    17
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    0   223   120    8   144     0    0     0     0   71     0    17
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:   0   223   120    8   144     0    0     0     0   71     0    17
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Final Vol.:    0   223   120    8   144     0    0     0     0   71     0    17
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:       0.00 0.65  0.35 0.05 0.95  0.00 0.00 0.00  0.00 0.81 0.00  0.19
Final Sat.:    0   566   304   41   745     0    0     0     0  546     0   131
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.39  0.39 0.19 0.19  xxxx xxxx xxxx  xxxx 0.13 xxxx  0.13
Crit Moves:       ****            ****                         ****
Delay/Veh:    0.0  9.6   9.6  8.5  8.5   0.0  0.0  0.0   0.0  8.6  0.0   8.6
Delay Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  9.6   9.6  8.5  8.5   0.0  0.0  0.0   0.0  8.6  0.0   8.6
LOS by Move:   *    A     A    A    A     *    *    *     *    A    *     A
ApproachDel:        9.6              8.5            xxxxxx              8.6
Delay Adj:         1.00             1.00             xxxxx             1.00
ApprAdjDel:         9.6              8.5            xxxxxx              8.6
LOS by Appr:         A                A                *                 A
********************************************************************************
```

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Base Volume Alternative)
********************************************************************************
Intersection #2 Loma Alta Dr/Sunset Ridge Rd
********************************************************************************
Average Delay (sec/veh):      2.7           Worst Case Level Of Service:       A
********************************************************************************
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Uncontrolled      Uncontrolled
Rights:           Include          Include           Include           Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0     4    0    13    20  112     0     0   73     4
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0     4    0    13    20  112     0     0   73     4
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0    0     0     4    0    13    20  112     0     0   73     4
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0    0     0     4    0    13    20  112     0     0   73     4
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   227 xxxx    75    77 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   766 xxxx   992  1535 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   758 xxxx   992  1535 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  925 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  9.0 xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     A    *     *     *    *     *
ApproachDel:     xxxxxx             9.0             xxxxxx            xxxxxx
ApproachLOS:        *                A                 *                 *
```

APPENDIX D
Intersection Level-of-Service Worksheets
"With Project" Conditions – PM Peak Hours

With Project Conditions

Scenario Report

Scenario:	PM Future
Command:	PM Future
Volume:	PM Existing
Geometry:	Existing
Impact Fee:	Default Impact Fee
Trip Generation:	Project
Trip Distribution:	Project
Paths:	Default Paths
Routes:	Default Routes
Configuration:	PM Future

With Project Conditions

Trip Generation Report

Forecast for Project

Zone #	Subzone	Amount	Units	Rate In	Rate Out	Trips In	Trips Out	Total Trips	% Of Total
1	Community Ce	27.00	Community Cent	0.38	0.62	10	17	27	25.2
	Zone 1 Subtotal					10	17	27	25.2
2	Sports Area	80.00	Sports Center	0.50	0.50	40	40	80	74.8
	Zone 2 Subtotal					40	40	80	74.8
TOTAL						50	57	107	100.0

With Project Conditions

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 Loma Alta Dr/Lincoln Ave	A	9.2	0.394	A	9.8	0.444	+ 0.050 V/C
# 2 Loma Alta Dr/Sunset Ridge Rd	A	2.7	0.000	A	3.8	0.000	+ 0.000 V/C

```
--------------------------------------------------------------------------------
                            With Project Conditions
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Loma Alta Dr/Lincoln Ave
********************************************************************************
Cycle (sec):        100                Critical Vol./Cap. (X):        0.444
Loss Time (sec):      0 (Y+R =  4 sec) Average Delay (sec/veh):         9.8
Optimal Cycle:        0                Level Of Service:                  A
********************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  223   120     8  144     0     0    0     0    71    0    17
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  223   120     8  144     0     0    0     0    71    0    17
Added Vol:      0    0    30    12    0     0     0    0     0    34    0    14
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  223   150    20  144     0     0    0     0   105    0    31
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:     0  223   150    20  144     0     0    0     0   105    0    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  223   150    20  144     0     0    0     0   105    0    31
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Final Vol.:     0  223   150    20  144     0     0    0     0   105    0    31
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.60  0.40  0.12 0.88  0.00  0.00 0.00  0.00  0.77 0.00  0.23
Final Sat.:     0  503   338    91  658     0     0    0     0   514    0   152
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.44  0.44  0.22 0.22  xxxx  xxxx xxxx  xxxx  0.20 xxxx  0.20
Crit Moves:             ****  ****                                          ****
Delay/Veh:    0.0 10.4  10.4   8.9  8.9   0.0   0.0  0.0   0.0   9.2  0.0   9.2
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 10.4  10.4   8.9  8.9   0.0   0.0  0.0   0.0   9.2  0.0   9.2
LOS by Move:   *    B     B     A    A     *     *    *     *     A    *     A
ApproachDel:      10.4              8.9           xxxxxx              9.2
Delay Adj:        1.00             1.00            xxxxx             1.00
ApprAdjDel:       10.4              8.9           xxxxxx              9.2
LOS by Appr:        B                A                *                A
********************************************************************************
```

```
--------------------------------------------------------------------------------
                            With Project Conditions
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Loma Alta Dr/Sunset Ridge Rd
********************************************************************************
Average Delay (sec/veh):      3.8          Worst Case Level Of Service:       A
********************************************************************************
Approach:      North Bound      South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled      Uncontrolled
Rights:           Include          Include          Include           Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0     4    0    13    20  112     0     0   73     4
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0     4    0    13    20  112     0     0   73     4
Added Vol:       0    0     0     5    0    48    42    0     0     0    0     5
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0    0     0     9    0    61    62  112     0     0   73     9
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:      0    0     0     9    0    61    62  112     0     0   73     9
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:      0    0     0     9    0    61    62  112     0     0   73     9
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4 xxxx   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5 xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   314 xxxx    78    82 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   683 xxxx   989  1528 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   661 xxxx   989  1528 xxxx xxxxx  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Stopped Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  930 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shrd StpDel:xxxxx xxxx xxxxx xxxxx  9.2 xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     A    *     *     *    *     *
ApproachDel:     xxxxxx              9.2            xxxxxx            xxxxxx
ApproachLOS:        *                 A                *                 *
```